Mr. Ron Northern
Noblesville Castings, Inc.
1600 South 8th Street
Noblesville, IN 46060

Re: Significant Source Modification No:
057-10672-00002

Dear Mr. Northern:

Noblesville Castings, Inc. applied for a Part 70 operating permit on August 30, 1996 for a ductile iron foundry operation. An application to modify the source was received on February 17, 1999. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

Removal of one (1) existing cupola, an increase of limited melt throughput to two (2) 10.2 ton per hour electric induction furnaces, conversion from one (1) 2.5 ton per hour electric induction furnace to one (1) 2.5 ton per hour holding furnace, and the addition of tundish ladle lids as emission controls on the magnesium treatment/inoculation operation.

The proposed Significant Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). If there are no changes to the proposed construction of the emission units, the source may begin operating on the date that IDEM receives an affidavit of construction pursuant to 326 IAC 2-7-10.5(h). If there are any changes to the proposed construction the source can not operate until an Operation Permit Validation Letter is issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Peter E. Fountaine, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 516-691-3395 or in Indiana at 1-800-451-6027 (ext 516-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
PEF/MES
cc: File - Hamilton County
U.S. EPA, Region V
Hamilton County Health Department
Air Compliance Section Inspector - Marc Goldman
Compliance Data Section - Mindy Jones
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

PART 70 SIGNIFICANT SOURCE MODIFICATION
OFFICE OF AIR MANAGEMENT

Noblesville Castings, Inc.
1600 South 8th Street
Noblesville, Indiana 46060

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Source Modification No.: 057-10672-00002	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary ductile iron foundry.

Responsible Official:	Ron Northern
Source Address:	1600 South 8th Street, Noblesville, Indiana 46060
Mailing Address:	1600 South 8th Street, Noblesville, Indiana 46060
Phone Number:	(317) 773 - 3313
SIC Code:	3321
County Location:	Hamilton
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

(a) One (1) scrap and charge handling and heating operation, known as EU-2, exhausted to the general area ventilation, known as stack 001, installed in 1998, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(b) Two (2) 10.2 ton per hour electric induction furnaces, known as EU-3A and EU-3B, exhausted to the general area ventilation, known as stack 001, installed in 1998, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(c) One (1) 2.5 ton per hour electric holding furnace, known as EU-5, exhausted to the general area ventilation, known as stack 001, capacity: 2.5 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(d) One (1) magnesium treatment/inoculation operation, known as EU-6, exhausted to the general area ventilation, known as stack 001, installed in 1971, controlled by tundish ladle lids for enclosed transfer operations, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(e) Three (3) casting machines, known as EU-7 and EU-8, exhausted to a wet collector, known as WC-E, exhausted through stack 004, and EU-9, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1997, with a total limited throughput of

11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(f) Three (3) cooling lines, known as EU-7A, EU-8A, and EU-9A, exhausted through stack 005 and serviced by a wet collector, known as WC-E, exhausted through stack 004, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(g) Three (3) shake-out units, known as EU-11, EU-12, and EU-13, exhausted to a wet collector, known as WC-E, exhausted through stack 004, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(h) Sand grinding and handling operations with a total limited throughput of 59,800 tons per year to be increased by 117,200 tons per year to 177,000 tons per year of sand and casting, consisting of the following equipment:

(1) One (1) casting vibrating conveyor, known as EU-16, exhausted to a wet collector, known as WC-E, exhausted through stack 004, installed in 1996.

(2) One (1) muller, known as EU-17, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

(3) Return sand screens, known as EU-18, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

(4) One (1) return sand conveyor system, known as EU-27, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

And the following storage bins:

(5) Two (2) return sand storage bins, known as EU-19 and EU-20, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: 80 tons and 100 tons of sand, respectively.

(6) One (1) bond storage bin, known as EU-22, equipped with a baghouse, known as BH-2, circulated through stack 007 into the storage bin, installed in 1978, capacity: 80 tons of premixed casting sand binder.

(7) One (1) bond storage bin, known as EU-23, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: one (1) ton of premixed casting sand binder.

(8) Two (2) outdoor sand storage bins, known as EU-24 and EU-25, installed in 1971, capacity: 150 tons of sand, each.

(9) One (1) sand storage bin, known as EU-26, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: one (1) ton of sand.

(i) Core making operations with a maximum production rate of 1.68 tons per hour of cores manufactured and a total limited throughput of 983 tons per year to be increased by 1,927 tons per year to 2,910 tons per year, equivalent to 243 tons per month of cores manufactured, consisting of the following equipment:

(1) Four (4) shell core machines, known as EU-28, exhausted to the general area ventilation, known as stack 001, installed in 1964 and 1997, capacity: 45 cycles per hour, each.

(2) Two (2) isocure core machines, known as EU-29, exhausted to the general area ventilation, known as stack 001, installed in 1976 and 1997, capacity: 60 cycles per hour, each.

(j) Tumbleblast cleaning operations with a total limited throughput of 6,578 tons per year to be increased by 12,892 tons per year to 19,470 tons per year, equivalent to 1,623 tons per month of finished castings, consisting of the following equipment:

Two (2) shot blast machines, known as EU-30 and EU-31, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1963 and 1992, respectively, capacity: 6.0 and 9.0 tons per hour of amasteel shot, respectively, and 11.2 tons per hour of finished castings, total.

(k) Casting grinding and finishing operations with a maximum throughput of 11.2 tons per hour of finished castings and a total limited throughput of 6,578 tons per year to be increased by 12,892 tons per year to19,470 tons per year, equivalent to 1,623 tons per month of finished castings, consisting of the following equipment:

(1) Ten (10) grinding units, known as EU-32, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1965, capacity: 8.0 tons per hour of finished castings.

(2) Ten (10) finishing (air burr) units, known as EU-33, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1992, capacity: 8.0 tons per hour of finished castings.

As a result of this modification, the following equipment will be taken out of service:

(l) One (1) cupola, known as EU-1, equipped with afterburners and a venturi scrubber, known as VS-1, exhausting through stack 002, capacity: 12 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Significant Source Modification [326 IAC 2-7-10.5(h)][326 IAC 2-7-2(d)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)]

(a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, on the attached Certification Form, with each submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this approval, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.

(b) Any application requesting an amendment or modification of this approval shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this approval:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this permit, all air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this approval. All monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.9 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(b) In the case of continuous opacity monitoring, whenever the continuous opacity monitor is malfunctioning or will be down for repairs or adjustments for a period of four (4) hours or more, visible emission readings should be performed in accordance with 40 CFR 60, Appendix A, Method 9, beginning four (4) hours after the start of the malfunction or down time for a minimum of one (1) hour.

(c) If the reading period begins less than one hour before sunset, readings shall be performed until sunset. If the first required reading period would occur between sunset and sunrise, the first reading shall be performed as soon as there is sufficient daylight.

(d) Method 9 opacity readings shall repeated for a minimum of one (1) hour at least once every four (4) hours during daylight operations, until such time that the continuous opacity monitor is back in operation.

(e) The opacity readings during this period shall be reported in the quarterly Compliance Monitoring Reports, unless there are ANY observed six minute averaged exceedances, in which case, these shall be reported to the air compliance inspector within four (4) working hours.

(f) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.10 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this approval;

(3) The Compliance Monitoring Requirements in Section D of this approval;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this approval; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this approval by the Permittee and maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this approval; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this approval, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the approval unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such

request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.11 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.12 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.13 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.14 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this approval;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventative Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this approval, and whether a deviation from a approval condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance.

C.15 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this approval shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) The first report shall cover the period commencing on the date of issuance of this approval and ending on the last day of the reporting period.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) One (1) scrap and charge handling and heating operation, known as EU-2, exhausted to the general area ventilation, known as stack 001, installed in 1998, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(b) Two (2) 10.2 ton per hour electric induction furnaces, known as EU-3A and EU-3B, exhausted to the general area ventilation, known as stack 001, installed in 1998, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(c) One (1) 2.5 ton per hour electric holding furnace, known as EU-5, exhausted to the general area ventilation, known as stack 001, capacity: 2.5 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(d) One (1) magnesium treatment/inoculation operation, known as EU-6, exhausted to the general area ventilation, known as stack 001, installed in 1971, controlled by tundish ladle lids for enclosed transfer operations, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(e) Three (3) casting machines, known as EU-7 and EU-8, exhausted to a wet collector, known as WC-E, exhausted through stack 004, and EU-9, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(f) Three (3) cooling lines, known as EU-7A, EU-8A, and EU-9A, exhausted through stack 005 and serviced by a wet collector, known as WC-E, exhausted through stack 004, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(g) Three (3) shake-out units, known as EU-11, EU-12, and EU-13, exhausted to a wet collector, known as WC-E, exhausted through stack 004, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

Facility Description [326 IAC 2-7-5(15)] Continued

(h) Sand grinding and handling operations with a total limited throughput of 59,800 tons per year to be increased by 117,200 tons per year to 177,000 tons per year of sand and casting, consisting of the following equipment:

(1) One (1) casting vibrating conveyor, known as EU-16, exhausted to a wet collector, known as WC-E, exhausted through stack 004, installed in 1996.

(2) One (1) muller, known as EU-17, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

(3) Return sand screens, known as EU-18, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

(4) One (1) return sand conveyor system, known as EU-27, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

And the following storage bins:

(5) Two (2) return sand storage bins, known as EU-19 and EU-20, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: 80 tons and 100 tons of sand, respectively.

(6) One (1) bond storage bin, known as EU-22, equipped with a baghouse, known as BH-2, circulated through stack 007 into the storage bin, installed in 1978, capacity: 80 tons of premixed casting sand binder.

(7) One (1) bond storage bin, known as EU-23, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: one (1) ton of premixed casting sand binder.

(8) Two (2) outdoor sand storage bins, known as EU-24 and EU-25, installed in 1971, capacity: 150 tons of sand, each.

(9) One (1) sand storage bin, known as EU-26, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: one (1) ton of sand.

(i) Core making operations with a maximum production rate of 1.68 tons per hour of cores manufactured and a total limited throughput of 983 tons per year to be increased by 1,927 tons per year to 2,910 tons per year, equivalent to 243 tons per month of cores manufactured, consisting of the following equipment:

(1) Four (4) shell core machines, known as EU-28, exhausted to the general area ventilation, known as stack 001, installed in 1964 and 1997, capacity: 45 cycles per hour, each.

(2) Two (2) isocure core machines, known as EU-29, exhausted to the general area ventilation, known as stack 001, installed in 1976 and 1997, capacity: 60 cycles per hour, each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Facility Description [326 IAC 2-7-5(15)] Continued

(j) Tumbleblast cleaning operations with a total limited throughput of 6,578 tons per year to be increased by 12,892 tons per year to 19,470 tons per year, equivalent to 1,623 tons per month of finished castings, consisting of the following equipment:

Two (2) shot blast machines, known as EU-30 and EU-31, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1963 and 1992, respectively, capacity: 6.0 and 9.0 tons per hour of amasteel shot, respectively, and 11.2 tons per hour of finished castings, total.

(k) Casting grinding and finishing operations with a maximum throughput of 11.2 tons per hour of finished castings and a total limited throughput of 6,578 tons per year to be increased by 12,892 tons per year to 19,470 tons per year, equivalent to 1,623 tons per month of finished castings, consisting of the following equipment:

(1) Ten (10) grinding units, known as EU-32, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1965, capacity: 8.0 tons per hour of finished castings.

(2) Ten (10) finishing (air burr) units, known as EU-33, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1992, capacity: 8.0 tons per hour of finished castings.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

(a) In order to avoid the requirements of 326 IAC 2-2, the fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt delivered to the two (2) 10.2 ton per hour electric induction furnaces and their associated operations (scrap and charge handling and heating, inoculation, holding, pouring casting, casting cooling, shakeout, sand grinding and handling, tumbleblast cleaning, casting grinding and finishing, core manufacture, and core sand handling) shall be limited to no more than 35,400 tons per twelve (12) consecutive month period, equivalent to:

(1) PM emission of 24.0 pounds per hour,

(2) PM_{10} emissions of 18.5 pounds per hour,

(3) VOC emissions of 5.68 pounds per hour, and

(4) NO_X emissions of 0.605 pounds per hour.

(b) Condition No. 10 of CP 057-9664-00002, issued September 10, 1998, required that the input of the two (2) 10.2 ton per hour electric induction furnaces and their associated operations (scrap and charge handling and heating, inoculation, holding, pouring casting, casting cooling, shakeout, sand grinding and handling, tumbleblast cleaning, casting grinding and finishing, core manufacture, and core sand handling) shall be limited to 11,960 tons per year, which consists of, no greater than fifty percent (50%) steel scrap and fifty percent

(50%) ductile iron re-melt. This melt throughput limitation was equivalent to PM emissions of 27.2 tons per rolling 12-month period or 6.21 pounds per hour and PM_{10} emissions of 22.3 tons per rolling 12-month period or 5.09 pounds per hour. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 62.21 did not apply.

This melt throughput limit is no longer required in order to avoid the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 62.21, because a netting credit of 122 tons of PM per year, 97.4 tons of PM_{10} per year, 11.3 tons of SO_2 per year, 20.3 tons of VOC per year, 1,855 tons of CO per year and 3.19 tons of NO_X per year has been obtained for the removal of the one (1) existing cupola. Therefore, the melt throughput limit has been increased from 11,960 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt to the two (2) 10.2 ton per hour electric induction furnaces and associated operations. The limited melt throughput is equivalent to 105 tons per year of PM emissions, 81.2 tons per year of PM_{10} emissions and 24.9 tons per year of VOC emissions. Therefore, the increased melt throughput coupled with the netting credit for removing the cupola results in emissions less than the PSD significant levels of 25 tons per year of PM, 15 tons of PM_{10} per year, 40 tons of SO_2, NO_X and VOC per year and 100 tons of CO per year.

(c) In order to avoid the requirements of 326 IAC 2-2, the one (1) 2.5 ton per hour electric holding furnace, known as EU-5, shall only be used for holding the melted fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt delivered from the two (2) 10.2 ton per hour electric induction furnaces, known as EU-3A and EU-3B.

D.1.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from:

(a) the two (2) 10.2 ton per hour electric induction furnaces, known as EU-3A and EU-3B shall not exceed 19.4 pounds per hour, each, when operating at a process weight rate of 10.2 tons per hour, each.

(b) the one (1) scrap and charge handling and heating operation, known as EU-2, and one (1) magnesium treatment/inoculation operation known as EU-6, shall not exceed 30.9 pounds per hour, each, when operating at a process weight rate of 20.4 tons per hour, each.

(c) the one (1) 2.5 ton per hour electric holding furnace, known as EU-5, shall not exceed 7.58 pounds per hour, when operating at a process weight rate of 2.5 tons per hour.

(d) the three (3) casting machines, known as EU-7, EU-8 and EU-9, shall not exceed 30.9 pounds per hour when operating at a process weight rate of 20.4 tons per hour.

(e) the three (3) cooling lines, known as EU-7A, EU-8A and EU-9A, shall not exceed 30.9 pounds per hour, each, when operating at a process weight rate of 20.4 tons per hour.

(f) the three (3) shake-out units, known as EU-11, EU-12 and EU-13, shall not exceed 30.9 pounds per hour, each, when operating at a process weight rate of 20.4 tons per hour, each.

(g) the core making operations, known as EU-28 and EU-29, exhausting to stack 001, shall not exceed 5.79 pounds per hour, total, when operating at a process weight rate of 1.68 tons per hour of cores manufactured, total.

(h) the tumbleblast cleaning operations, known as EU-30 and EU-31 shall not exceed 20.7 pounds per hour, total, when operating at a process weight rate of 11.2 tons per hour, total.

(i) the casting grinding and finishing operations, known as EU-32 and EU-33 shall not exceed 20.7 pounds per hour, total, when operating at a process weight rate of 11.2 tons per hour, total.

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

(j) the sand grinding and handling operations, known as EU-16 through EU-27 shall not exceed 51.5 pounds per hour when operating at a process weight rate of 102 tons per hour.

The pounds per hour limitation was calculated with the following equation:

And the following equation for the process weight rate in excess of sixty thousand (60,000) pounds per hour:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour, and P = process weight rate in tons per hour.

D.1.3 Fugitive Dust Emissions [326 IAC 6-4]

Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), under no circumstance shall the source emit particulate matter to the extent that some visible portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for:

(a) the one (1) magnesium treatment/inoculation operation, known as EU-6, and its control device.

(b) the three (3) casting machines, known as EU-7, EU-8 and EU-9, three (3) cooling lines, known as EU-7A, EU-8A and EU-9A, and three (3) shake-out units, known as EU-11, EU-12, and EU-13, and their control devices.

(c) the one (1) casting vibrating conveyor, known as EU-16, one (1) muller, known as EU-17, return sand screens, known as EU-18, one (1) return sand conveyor system, known as EU-27, two (2) return sand storage bins, known as EU-19 and EU-20, one (1) bond storage bin, known as EU-23, two (2) outdoor sand storage bins, known as EU-24 and EU-25, and one (1) sand storage bin, known as EU-26, and their control devices.

(d) the tumbleblast cleaning operations, known as EU-30 and EU-31, the casting grinding and finishing operations, known as EU-32 and EU-33, and their control device.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform PM and PM10 testing for two (2) casting machines, known as EU-7 and EU-8, the three (3) cooling lines, known as EU-7A, EU-8A and EU-9A, three (3) shakeout units, known as EU-11, EU-12 and EU-13, one (1) casting vibrating conveyor, known as EU-16, all exhausting through wet collector WC-E (stack 004) utilizing Methods 5 or 17 (40 CFR 60, Appendix A) for PM and Methods 201 or 201A and 202 (40 CFR 51, Appendix M) for PM10, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensible PM10. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

(b) During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform PM and PM10 testing for the one (1) casting machine, known as EU-9, one (1) muller, known as EU-17, the return sand screens, known as EU-18, one (1) return sand conveyor system, known as EU-27 and the four (4) storage bins, known as EU-19, EU-20, EU-23 and EU-26, all exhausting through wet collector WC-W (stack 003) utilizing Methods 5 or 17 (40 CFR 60, Appendix A) for PM and Methods 201 or 201A and 202 (40 CFR 51, Appendix M) for PM10, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensible PM10. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

D.1.6 Particulate Matter (PM)

(a) The tundish ladle lids for PM control shall be in operation at all times when the one (1) magnesium treatment/inoculation operation, known as EU-6, is in operation and exhausting to the outside atmosphere.

(b) The wet collectors, known as WC-W and WC-E, for PM control shall be in operation at all times when the three (3) casting machines, known as EU-7, EU-8 and EU-9, three (3) cooling lines, known as EU-7A, EU-8A and EU-9A, three (3) shake-out units, known as EU-11, EU-12, and EU-13, one (1) casting vibrating conveyor, known as EU-16, one (1) muller, known as EU-17, return sand screens, known as EU-18, one (1) return sand conveyor system, known as EU-27, two (2) return sand storage bins, known as EU-19 and EU-20, one (1) bond storage bin, known as EU-23, two (2) outdoor sand storage bins, known as EU-24 and EU-25, and one (1) sand storage bin, known as EU-26 are in operation and exhausting to the outside atmosphere.

(c) The baghouse for PM control shall be in operation at all times when the two (2) shot blast machines, known as EU-30 and EU-31, ten (10) grinding units, known as EU-32, and ten (10) finishing (air burr) units, known as EU-33, are in operation and exhausting to the outside atmosphere.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the two (2) 10.2 ton per hour electric induction furnaces, one (1) scrap and charge handling and heating operation, one (1) magnesium treatment/ inoculation operation, and the one (1) 2.5 ton per hour electric holding furnace stack exhaust, known as stack 001, shall be performed once per shift during normal daylight

operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the wet collectors stack exhausts, known as stack 003 and stack 004, shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(c) Visible emission notations of the baghouse stack exhaust, known as stack 006, shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(d) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(e) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(f) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(g) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.8 Tundish Ladle Lid Inspections

An inspection shall be performed each calender quarter of all tundish ladle lids controlling the one (1) magnesium treatment/inoculation operation, known as EU-6, when venting to the atmosphere. A tundish ladle lid inspection shall be performed within three months of installation and every three months thereafter. Inspections are optional when venting to the indoors. All defective tundish ladle lids and defective tundish ladle lid parts shall be replaced.

D.1.9 Broken or Failed Tundish Ladle Lid Detection

In the event that tundish ladle lid failure has been observed.

The effected unit, known as EU-6, will be shut down immediately until the failed tundish ladle lid units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.10 Parametric Monitoring

The Permittee shall record the total static pressure drop across the wet collectors used in conjunction with the three (3) casting machines, known as EU-7, EU-8 and EU-9, three (3) cooling lines, known as EU-7A, EU-8A and EU-9A, and three (3) shake-out units, known as EU-11, EU-12, and EU-13, the one (1) casting vibrating conveyor, known as EU-16, one (1) muller, known as EU-17, return sand screens, known as EU-18, one (1) return sand conveyor system, known as EU-27, two (2) return sand storage bins, known as EU-19 and EU-20, one (1) bond storage bin, known as EU-23, two (2) outdoor sand storage bins, known as EU-24 and EU-25, and one (1) sand storage bin,

known as EU-26, at least once weekly when the casting, cooling, shake out, sand grinding and handling processes are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the wet collectors shall be maintained within the range of 7.0 and 9.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain trouble shooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.11 Wet Collector Inspections

An inspection shall be performed each calender quarter of all wet collectors controlling the three (3) casting machines, known as EU-7, EU-8 and EU-9, three (3) cooling lines, known as EU-7A, EU-8A and EU-9A, and three (3) shake-out units, known as EU-11, EU-12, and EU-13, the one (1) casting vibrating conveyor, known as EU-16, one (1) muller, known as EU-17, return sand screens, known as EU-18, one (1) return sand conveyor system, known as EU-27, two (2) return sand storage bins, known as EU-19 and EU-20, one (1) bond storage bin, known as EU-23, two (2) outdoor sand storage bins, known as EU-24 and EU-25, and one (1) sand storage bin, known as EU-26 when venting to the atmosphere. Wet collector inspections shall be performed within three months of installation and every three months thereafter. Inspections are optional when venting to the indoors. All defective or failed wet collector parts shall be replaced.

D.1.12 Broken or Failed Wet Collector Detection

In the event that wet collector failure has been observed.

The effected units, known as EU-7, EU-8, EU-9, EU-7A, EU-8A, EU-9A, EU-11, EU-12, and EU-13, EU-16, EU-17, EU-18, EU-19, EU-20, EU-23, EU-24, EU-25, EU-26, and EU-27 will be shut down immediately until the failed wet collector units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.13 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the two (2) shot blast machines, known as EU-30 and EU-31, ten (10) grinding units, known as EU-32, and ten (10) finishing (air burr) units, known as EU-33, at least once weekly when the two (2) shot blast machines, known as EU-30 and EU-31, ten (10) grinding units, known as EU-32, and ten (10) finishing (air burr) units, known as EU-33, are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 2.0 and 4.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.14 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the two (2) shot blast machines, known as EU-30 and EU-31, ten (10) grinding units, known as EU-32, and ten (10) finishing (air burr) units, known as EU-33, when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.15 Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) The effected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.16 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records of monthly melt throughput of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt delivered to the two (2) 10.2 ton per hour induction furnaces.

(b) To document compliance with Condition D.1.7, the Permittee shall maintain records of visible emission notations of the stack exhausts, known as stack 001, stack 003, stack 004, and stack 006, once per shift during normal daylight operations.

(c) To document compliance with Conditions D.1.8, D.1.11, and D.1.14, the Permittee shall maintain records of the results of the inspections required under Conditions D.1.8, D.1.11, and D.1.14.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.17 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address(es) listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Noblesville Castings, Inc.
Source Address: 1600 South 8th Street, Noblesville, Indiana 46060
Mailing Address: 1600 South 8th Street, Noblesville, Indiana 46060
Source Modification No.: 057-10672-00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Quarterly Report

Source Name: Noblesville Castings, Inc.
Source Address: 1600 South 8th Street, Noblesville, Indiana 46060
Mailing Address: 1600 South 8th Street, Noblesville, Indiana 46060
Part 70 Permit No.: 057-6487-00002
Facility: Two (2) 10.2 ton per hour electric induction furnaces (EU-3A and EU-3B)
Parameter: Throughput of metal melted
Limit: 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt per twelve (12) consecutive month period.

YEAR: _____

Month	Column 1A (EU-3A)	Column 1B (EU-3B)	Column 2	(Column 1A + Column 1B + Column 2
	This Month (tons)	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)
Month 1				
Month 2				
Month 3				

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES ?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Noblesville Castings, Inc. PHONE NO. : (317) 773-3313
LOCATION: (CITY AND COUNTY) Noblesville / Hamilton
PERMIT NO. 10672 AFS PLANT ID: 00002 AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 19_____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 19____ _____ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

*** Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____

_____

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for a Part 70 Significant Source Modification

Source Name:	**Noblesville Castings, Inc.**
Source Location:	**1600 South 8th Street, Noblesville, Indiana 46060**
County:	**Hamilton**
SIC Code:	**3321**
Source Modification:	**057-10672-00002**
Permit Reviewer:	**Peter E. Fountaine**

On July 10, 1999, the Office of Air Management (OAM) had a notice published in the Topics Newspapers Ink, Noblesville, Indiana, stating that Noblesville Castings, Inc. had applied for a Significant Source Modification relating to:

(a) removal of one (1) existing cupola,

(b) an increase of limited melt throughput to two (2) 10.2 ton per hour electric induction furnaces, conversion from one (1) 2.5 ton per hour electric induction furnace to one (1) 2.5 ton per hour holding furnace, and

(c) the addition of tundish ladle lids as emission controls on the magnesium treatment/ inoculation operation.

The notice also stated that OAM proposed to issue a Significant Source Modification for this operation and provided information on how the public could review the proposed Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Significant Source Modification should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the Significant Source Modification. The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded)**:

Condition D.1.5 (Testing Requirements) has been replaced to require testing with the following:

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

~~The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the particulate matter limits specified in Condition D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.~~

(a) During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform PM and PM_{10} testing for two (2) casting machines, known as EU-7 and EU-8, the three (3) cooling lines, known as EU-7A, EU-8A and EU-9A, three (3) shakeout units, known as EU-11, EU-12 and EU-13, one (1) casting vibrating conveyor, known as EU-16, all exhausting through wet collector WC-E (stack 004) utilizing Methods 5 or 17 (40 CFR 60, Appendix A) for PM and Methods 201 or 201A

and 202 (40 CFR 51, Appendix M) for PM_{10}, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensible PM_{10}. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

(b) During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform PM and PM_{10} testing for the one (1) casting machine, known as EU-9, one (1) muller, known as EU-17, the return sand screens, known as EU-18, one (1) return sand conveyor system, known as EU-27 and the four (4) storage bins, known as EU-19, EU-20, EU-23 and EU-26, all exhausting through wet collector WC-W (stack 003) utilizing Methods 5 or 17 (40 CFR 60, Appendix A) for PM and Methods 201 or 201A and 202 (40 CFR 51, Appendix M) for PM_{10}, or other methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensible PM_{10}. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	**Noblesville Castings, Inc.**
Source Location:	**1600 South 8th Street, Noblesville, Indiana 46060**
County:	**Hamilton**
SIC Code:	**3321**
Operation Permit No.:	**T 057-6487-00002**
Operation Permit Issuance Date:	**Yet to be issued**
Permit Modification No.:	**057-10672-00002**
Permit Reviewer:	**Peter E. Fountaine**

The Office of Air Management (OAM) has reviewed a significant source modification application from Noblesville Castings, Inc., a ductile iron foundry, relating to the:

(a) removal of one (1) existing cupola,

(b) an increase of limited melt throughput to two (2) 10.2 ton per hour electric induction furnaces, conversion from one (1) 2.5 ton per hour electric induction furnace to one (1) 2.5 ton per hour holding furnace,

(c) and the addition of tundish ladle lids as emission controls on the magnesium treatment/ inoculation operation.

History

On August 30, 1996, the Office of Air Management (OAM) received a Part 70 permit application from Noblesville Castings, Inc. relating to the operation of a ductile iron foundry.

According to a letter dated April 15, 1998, the source had met with representatives of IDEM on March 5 and April 2, 1998. It was determined that two phases of new construction would be undertaken before the completion of a Part 70 review.

The first application for construction of two planned construction permits for this source was submitted on April 13, 1998. The application involved removing two (2) 2.5 ton per hour electric induction furnaces to be replaced by two (2) 10.2 ton per hour electric induction furnaces. On September 10, 1998, the Office of Air Management (OAM) issued CP 057-9664-00002 relating to the construction and operation of two (2) 10.2 ton per hour electric induction furnaces and an additional emission control shroud on the magnesium treatment/inoculation operation venting to one (1) reactivated Schneible medium to heavy load wet collector. The two (2) 10.2 ton per hour electric induction furnaces were limited to 11,960 tons per year, equivalent to 996.6 tons per month, of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt in order to remain under the PSD significant levels. Netting credit for that portion of the actual emissions that occurred as the result of average induction melting from the two (2) 2.5 ton per hour electric induction furnaces for the past two years was taken.

This proposed permit involves removing the one (1) existing cupola and restoring the original melt capacity of 18.0 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt by increasing the limit of the two (2) 10.2 ton per hour electric induction furnaces and their associated operations.

On February 17, 1999, the Office of Air Management (OAM) received a significant source modification application from Noblesville Castings, Inc. for an existing ductile iron castings manufacturing source.

The following table summarizes the chronology of the permitting activity for Noblesville Castings, Inc.:

Date	Action	Equipment Involved
August 30, 1996	Part 70 Permit application received.	Entire ductile iron foundry.
March 5 & April 2, 1998	Meeting with the IDEM regarding the schedule for the Part 70 Permit.	Entire ductile iron foundry.
April 13, 1998	Construction application CP 057-9664-00002 received.	Replacement of two (2) 2.5 ton per hour electric induction furnaces by two (2) 10.2 ton per hour electric induction furnaces.
September 10, 1998	CP 057-9664-00002 issued.	Two (2) 10.2 ton per hour electric induction furnaces limited to 11,960 tons per year melt throughput.
February 17, 1999	Significant Source Modification application No. 057-10672-00002 received.	Removal of one (1) cupola, one(1) 2.5 ton per hour induction furnace converted furnace, increase melt throughput limit by 23,440 tons per year to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt to the two (2) 10.2 ton per hour electric induction furnaces and associated operations.

According to Noblesville Castings, Inc. the construction permitted as per CP 057-9664-00002 had not yet been completed. One (1) of two (2) 2.5 ton per hour electric induction furnaces was changed out for one (1) 10.2 ton per hour electric induction furnace and the one (1) Schneible medium to heavy load wet collector was reactivated. The cupola has been disabled pursuant to Occupational Safety and Health Administration (OSHA) violations.

It is the intent of Noblesville Castings Inc. to complete the construction of the two (2) 10.2 ton per hour electric induction furnaces as per CP 057-9664-00002, with one exception. The remaining one (1) 2.5 ton per hour electric induction furnace will be converted into one (1) 2.5 ton per hour electric holding furnace, in addition to an existing one (1) 2.5 ton per hour holding furnace, for a total of two (2) 2.5 ton per hour electric holding furnaces.

The emission credit used for the removal of the two (2) 2.5 ton per hour electric induction furnaces as per CP 057-9664-00002 has remained unchanged. The remaining one (1) 2.5 ton per hour electric induction furnace will be removed and replaced to a new location in the general area. Conversion to a one (1) 2.5 ton per hour holding furnace was considered an emission increase equal to the potential emissions of one (1) holding furnace rated at 2.5 tons per hour and counted

towards emission increases in the overall modification.

The melt throughput limit will be increased by 23,440 tons per year for a final limited melt throughput of 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt delivered to the two (2) 10.2 ton per hour electric induction furnaces.

The modifications to this operation will consist of the following equipment:

(a) One (1) scrap and charge handling and heating operation, known as EU-2, exhausted to the general area ventilation, known as stack 001, installed in 1998, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year, equivalent to 2,950 tons per month of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(b) Two (2) 10.2 ton per hour electric induction furnaces, known as EU-3A and EU-3B, exhausted to the general area ventilation, known as stack 001, installed in 1998, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year, equivalent to 2,950 tons per month of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(c) One (1) 2.5 ton per hour electric holding furnace, known as EU-5, exhausted to the general area ventilation, known as stack 001, capacity: 2.5 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(d) One (1) magnesium treatment/inoculation operation, known as EU-6, exhausted to the general area ventilation, known as stack 001, installed in 1971, controlled by tundish ladle lids for enclosed transfer operations, with a total limited melt throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year, equivalent to 2,950 tons per month of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(e) Three (3) casting machines, known as EU-7 and EU-8, exhausted to a wet collector, known as WC-E, exhausted through stack 004, and EU-9, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year, equivalent to 2,950 tons per month of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(f) Three (3) cooling lines, known as EU-7A, EU-8A, and EU-9A, exhausted through stack 005 and serviced by a wet collector, known as WC-E, exhausted through stack 004, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year, equivalent to 2,950 tons per month of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(g) Three (3) shake-out units, known as EU-11, EU-12, and EU-13, exhausted to a wet collector, known as WC-E, exhausted through stack 004, installed in 1997, with a total limited throughput of 11,960 tons per year to be increased by 23,440 tons per year to 35,400 tons per year, equivalent to 2,950 tons per month of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(h) Sand grinding and handling operations with a total limited throughput of 59,800 tons per year to be increased by 117,200 tons per year to 177,000 tons per year of sand and casting, consisting of the following equipment:

(1) One (1) casting vibrating conveyor, known as EU-16, exhausted to a wet collector, known as WC-E, exhausted through stack 004, installed in 1996.

(2) One (1) muller, known as EU-17, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

(3) Return sand screens, known as EU-18, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

(4) One (1) return sand conveyor system, known as EU-27, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971.

And the following storage bins:

(5) Two (2) return sand storage bins, known as EU-19 and EU-20, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: 80 tons and 100 tons of sand, respectively.

(6) One (1) bond storage bin, known as EU-22, equipped with a baghouse, known as BH-2, circulated through stack 007 into the storage bin, installed in 1978, capacity: 80 tons of premixed casting sand binder.

(7) One (1) bond storage bin, known as EU-23, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: one (1) ton of premixed casting sand binder.

(8) Two (2) outdoor sand storage bins, known as EU-24 and EU-25, installed in 1971, capacity: 150 tons of sand, each.

(9) One (1) sand storage bin, known as EU-26, exhausted to a wet collector, known as WC-W, exhausted through stack 003, installed in 1971, capacity: one (1) ton of sand.

(i) Core making operations with a maximum production rate of 1.68 tons per hour of cores manufactured and a total limited throughput of 983 tons per year to be increased by 1,927 tons per year to 2,910 tons per year, equivalent to 243 tons per month of cores manufactured, consisting of the following equipment:

(1) Four (4) shell core machines, known as EU-28, exhausted to the general area ventilation, known as stack 001, installed in 1964 and 1997, capacity: 45 cycles per hour, each.

(2) Two (2) isocure core machines, known as EU-29, exhausted to the general area ventilation, known as stack 001, installed in 1976 and 1997, capacity: 60 cycles per hour, each.

(j) Tumbleblast cleaning operations with a total limited throughput of 6,578 tons per year to be increased by 12,892 tons per year to 19,470 tons per year, equivalent to 1,623 tons per month of finished castings, consisting of the following equipment:

Two (2) shot blast machines, known as EU-30 and EU-31, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1963 and 1992, respectively, capacity: 6.0 and 9.0 tons per hour of amasteel shot, respectively, and

11.2 tons per hour of finished castings, total.

(k) Casting grinding and finishing operations with a maximum throughput of 11.2 tons per hour of finished castings and a total limited throughput of 6,578 tons per year to be increased by 12,892 tons per year to19,470 tons per year, equivalent to 1,623 tons per month of finished castings, consisting of the following equipment:

(1) Ten (10) grinding units, known as EU-32, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1965, capacity: 8.0 tons per hour of finished castings.

(2) Ten (10) finishing (air burr) units, known as EU-33, exhausted to a baghouse, known as BH-1, exhausted through stack 006, installed in 1992, capacity: 8.0 tons per hour of finished castings.

As a result of this modification, the following equipment will be taken out of service:

(l) One (1) cupola, known as EU-1, equipped with afterburners and a venturi scrubber, known as VS-1, exhausting through stack 002, capacity: 12 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

Existing Approvals

The source applied for a Part 70 Operating Permit (T 057-6487-00002) on August 30, 1996. The source has been operating under previous approvals including, but not limited to, the following:

(a) CP 057-9664-00002, issued on September 10, 1998; and

(b) OP 29-04-87-0109, issued on April 1, 1983.

All conditions from previous approvals were incorporated into this source modification except the following:

(a) CP 057-9664-00002, issued on September 10, 1998

Condition 10.(a): PSD Minor Limit.

(a) That the input of the two (2) 10.2 ton per hour electric induction furnaces and their associated operations (scrap and charge handling, inoculation, pouring casting, casting cooling, shakeout, sand grinding and handling, tumbleblast cleaning, casting grinding and finishing, core manufacture, and core sand handling) shall be limited to 11,960 tons per year, which consists of, no greater than fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

Reason not incorporated: The throughput to the two (2) 10.2 ton per hour electric induction furnaces and their associated operations shall be limited to 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt.

(b) CP 057-9664-00002, issued on September 10, 1998

Condition 10.(b): PSD Minor Limit.

(b) This production limitation is equivalent to PM emissions of 27.2 tons per rolling 12-month period or 6.21 pounds per hour and PM_{10} emissions of 22.3 tons per rolling

12-month period or 5.09 pounds per hour. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply. The PM limit of 6.21 pounds per hour also satisfies the requirements of 326 IAC 6-3-2.

Reason not incorporated: The new production limitation is equivalent to PM emissions of 105 tons per rolling 12-month period and PM_{10} emissions of 81.2 tons per rolling 12-month period.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
001 General Area Ventilation	EU-2, EU-3A, EU-3B, EU-5, EU-6, EU-28, and EU-29	60.0	N/A	N/A	100.0
003 West Wet Collector WC-W	EU-9, EU-17, EU-18, EU-19, EU-20, 23, EU-26, and EU-27	65.0	3.20	48,000	ambient
004 East Wet Collector WC-E	EU-7, EU-7A, EU-8, EU-8A, EU9A, EU-11, EU-12, EU-13, EU-16	65.0	3.20	48,000	ambient
005	EU-7A, EU-8A, and EU-9A	65.0	3.0	33,000	ambient
006 Baghouse BH-1	EU-30, EU-31, EU-32, and EU-33	35.0	3.50	45,000	ambient

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 17, 1999. Additional information was received on April 5, 1999 and May 7, 11, and 18, 1999.

Emission Calculations

See pages 1 through 28 of 28 of Appendix A (Emission Calculations Spreadsheets) for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

The following tables summarize the potential emissions for all significant emission units since all emission units at this foundry are affected by the increase in limited melt throughput.

Pollutant	**Potential To Emit** (tons/year)
PM	2143
PM_{10}	1163
SO_2	1.86
VOC	126
CO	10.5
NO_X	13.4

Note: For the purpose of determining Title V applicability for particulates, PM_{10}, not PM, is the regulated pollutant in consideration.

HAPS	**Potential To Emit** (tons/year)
Acrolein	0.00718
Benzene	1.63
Formaldehyde	0.00982
Hydrogen Cyanide	0.885
M-Xylene	0.0835
Naphthalene	0.0417
O-Xylene	0.0478
Phenol	0.473
Toluene	0.305
Lead	4.07
Nickel	0.161
Chromium	0.804
Manganese	1.13
TOTAL	9.65

The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM, PM_{10}, and VOC are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Actual Emissions

The following table shows the actual emissions from the source. These emissions were based on the 1998 AIRS Facility Subsystem Quick Look Report.

Pollutant	**Actual Emissions** (tons/year)
PM	140
PM_{10}	117
SO_2	12.0
VOC	21.4
CO	0.443
NO_X	3.28
Pb	0.469

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
EU-3A and EU-3B	15.9	5.2	0.00	0.00	0.00	0.00	1.02
EU-2	10.6	6.37	0.00	0.00	0.00	0.00	0.0266
EU-6	9.56	8.60	0.00	0.0885	0.00	0.00	0.00733
EU-7, EU-8, and EU-9	25.2	16.8	0.354	2.48	0.00	0.177	0.0629
EU-7A, EU-8A, and EU-9A	12.6	12.6	0.00	0.00	0.00	0.00	0.137
EU-11, EU-12, and EU-13	6.68	4.68	0.00	21.2	0.00	0.00	0.0167
EU-16 through EU-27	18.1	15.0	0.00	0.00	0.00	0.00	0.00
EU-30 and EU-31	4.53	0.496	0.00	0.00	0.00	0.00	0.0131
EU-32 and EU-33	0.00292	0.00131	0.00	0.00	0.00	0.00	0.00
EU-28 and EU-29	0.153	0.153	0.133	0.946	0.00	0.212	0.689
Core sand handling	0.0653	0.0542	0.00	0.00	0.00	0.00	0.00
Natural gas usage	0.188	0.188	0.0149	0.136	2.08	2.48	0.00

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
EU-4 and EU-5	0.991	0.991	0.00	0.00	0.00	0.00	0.00
Total Emissions	105	1.2	0.502	24.9	2.08	2.87	1.98

The values in the table represent the emissions resulting from the limited yearly melt throughput after control by devices required to be operating in order to determine compliance with 326 IAC 6-3 (Process Operations).

County Attainment Status

The source is located in Hamilton County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Hamilton County has been designated as attainment or unclassifiable for ozone.

Proposed Modification

Calculations show that 122 and 97.4 tons per year of actual PM and PM_{10} emissions after controls will be considered for the purpose of cupola netting. These values are based on the 1996 and 1997 average yearly melt throughput to the cupola of 25,572 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. In adding the allowable twenty-five (25) and fifteen (15) tons per year PM and PM_{10} emission thresholds for a minor PSD modification without PSD review, to the netting, results in emission increases of 147 and 112 tons per year of PM and PM_{10}, respectively.

The melt rate increase of 23,440 tons per year, minus the cupola netting emission credit, results in decreases in emissions of all pollutants, except VOC. Limited throughput results in annual VOC emissions of less than 25.0 tons per year, therefore 326 IAC 8-1-6 will not be applicable.

The proposed increase in emissions are a significant modification to a yet to be issued Title V operation permit for an existing major source. This source is not subject to PSD review, because the modification emission increases after controls are below the PSD significant levels after taking into account a netting credit for that portion of the actual average emissions for the past two years.

Noblesville Castings, Inc., in order to avoid PSD major modification status, will accept a total melt tonnage throughput limit of 35,400 tons per year, equivalent to 2,950 tons per month, of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt to the two (2) 10.2 ton per hour electric induction furnaces and associated operations. This represents a total melt tonnage throughput increase of 23,440 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt to the current limit of 11,960 tons per year.

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (tons/yr)	PM_{10} (tons/yr)	SO_2 (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO_x (tons/yr)
Proposed Modification	105	81.2	0.502	24.9	2.08	2.87
Contemporaneous Increases	0.00	0.00	0.00	0.00	0.00	0.00
Contemporaneous Decreases	122	97.4	11.3	20.3	1855	3.19
Net Emissions	-17.0	-16.2	-10.8	4.60	-1853	-0.320
PSD Significant Level	25	15	40	40	100	40

(a) This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

(b) See pages 1 through 28 of 28 of Appendix A (Emissions Calculation Spreadsheets) for detailed calculations.

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-057-6487-00002) application on August 30, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-1-3.4 (New Source Toxics Control)

The facilities involved in this modification do not have potential emissions greater than ten (10) tons per year of any single HAP or twenty-five (25) tons per year of any combination of HAPS. Therefore, 326 IAC 2-1-3.4 (New Source Toxics Control) will not apply.

326 IAC 2-2 (Prevention of Significant Deterioration)

The source is a major source pursuant to 326 IAC 2-2 PSD. This source will accept a melt throughput limit of 35,400 tons per year of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. The emission increase resulting from the limited throughput after taking into account an emission credit for the removal of the cupola is less than the PSD significant level required for a PSD review. Therefore, PSD review is not required at this time.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than 100 tons per year of PM, PM_{10}, and VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

Under no circumstance shall the source emit particulate matter to the extent that some visible portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

(a) The particulate matter (PM) emissions from the two (2) 10.2 ton per hour electric induction furnaces shall not exceed 19.4 pounds per hour, each, when operating at a process weight rate of 10.2 tons per hour, each, of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. Since the potential to emit PM emissions from the two (2) 10.2 ton per hour electric induction furnaces is 18.4 pounds per hour, total. The two (2) 10.2 ton per hour electric induction furnaces will comply with this rule.

(b) The particulate matter (PM) emissions from the scrap and charge handling and heating operations shall not exceed 30.9 pounds per hour when operating at a process weight rate of 20.4 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. Since the potential to emit PM from the scrap and charge handling and heating operations is 12.2 pounds per hour, the scrap and charge handling and heating operations will comply with this rule.

(c) The particulate matter (PM) emissions from the magnesium treatment/inoculation operation shall not exceed 30.9 pounds per hour when operating at a process weight rate of 20.4 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. Since the potential to emit PM from the magnesium treatment/inoculation operation after seventy percent (70%) control by the tundish ladle lids is 11.0 pounds per hour, the magnesium treatment/inoculation operation will comply with this rule. Compliance will be demonstrated by operating the tundish ladle lids in place at all times the magnesium treatment/inoculation operation is in operation.

(d) The particulate matter (PM) emissions from the pouring casting process shall not exceed 30.9 pounds per hour when operating at a process weight rate of 20.4 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. Since the potential to emit PM from the pouring casting process, after sixty-six and two tenths percent (66.2%) control from the wet collectors is 29.0 pounds per hour, the pouring casting operations will comply with this rule. Compliance will be demonstrated by operating the wet collectors, known as WC-W and WC-E, exhausted through stack 003 and stack 004, respectively, at all times the pouring casting process is in operation.

(e) The particulate matter (PM) emissions from the casting cooling process shall not exceed 30.9 pounds per hour when operating at a process weight rate of 20.4 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. Since the potential to emit PM from the pouring casting process is 28.6 pounds per hour, the pouring casting operations will comply with this rule.

(f) The particulate matter (PM) emissions from the shakeout process shall not exceed 30.9 pounds per hour when operating at a process weight rate of 20.4 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. Since the potential to emit PM from the shakeout process, after eighty-eight and two tenths percent (88.2%) control from the wet collector, known as WC-E, exhausted through stack 004, is 7.71 pounds per hour, the shakeout process will comply with this rule. Compliance will be demonstrated by operating the wet collector, known as WC-E, exhausted through stack 004, at all times the shakeout process is in operation.

(g) The particulate matter (PM) emissions from the sand grinding and handling process shall not exceed 51.5 pounds per hour when operating at a process weight rate of 102 tons per hour (81.6 tons of sand and 20.4 tons of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt). Since the potential to emit PM from the sand grinding and handling process, after sixty-eight and six tenths percent (68.6%) control from the wet collectors, known as WC-W and WC-E, exhausted through stack 003 and stack 004, respectively, is 20.8 pounds per hour, the sand grinding and handling process will comply with this rule. Compliance will be demonstrated by operating the wet collectors, known as WC-W and WC-E, exhausted through stack 003 and stack 004, respectively, at all times the sand grinding and handling process is in operation.

(h) The particulate matter (PM) emissions from the tumbleblast cleaning process shall not exceed 20.7 pounds per hour when operating at a process weight rate of 11.2 tons per hour of finished castings. Since the potential to emit PM from the tumbleblast cleaning process, after ninety-seven percent (97.0%) control from the baghouse, known as BH-1, exhausted through stack 006, is 5.22 pounds per hour, the tumbleblast cleaning process will comply with this rule. Compliance will be demonstrated by operating the baghouse, known as BH-1, exhausted through stack 006, at all times the tumbleblast cleaning process is in operation.

(i) The particulate matter (PM) emissions from the casting grinding and finishing process shall not exceed 20.7 pounds per hour when operating at a process weight of 11.2 tons per hour of finished castings. Since the potential to emit PM from the casting grinding and finishing process is 0.112 pound per hour, the casting grinding and finishing process will comply with this rule.

(j) The particulate matter (PM) emissions from the core manufacture process shall not exceed 5.79 pounds per hour when operating at a process weight of 1.68 tons per hour of cores manufactured. Since the potential to emit PM from the core manufacture process is 0.587 pound per hour, the core manufacture process will comply with this rule.

(k) The particulate matter (PM) emissions from the core sand handling process shall not exceed 5.79 pounds per hour when operating at a process weight of 1.68 tons per hour of cores manufactured. Since the potential to emit PM from the core sand handling process is 1.09 pounds per hour, the core sand handling process will comply with this rule.

(l) The particulate matter (PM) emissions from the one (1) 2.5 ton per hour holding furnace shall not exceed 7.58 pounds per hour when operating at a process weight of 2.50 tons per hour of fifty percent (50%) steel scrap and fifty percent (50%) ductile iron re-melt. Since the potential to emit PM from the one (1) 2.5 ton per hour holding furnace is 0.140 pound per hour, the one (1) 2.5 ton per hour holding furnace will comply with this rule.

These limitations were calculated using the following equation for the process weight rate up to sixty thousand (60,000) pounds per hour:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour;

And the following equation for the process weight rate in excess of sixty thousand (60,000) pounds per hour:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour.

326 IAC 7-1 (Sulfur Dioxide Emission Limits)

The two (2) 10.2 ton per hour electric induction furnace operations have potential emissions of 1.86 tons per year, equivalent to 0.425 tons per hour, of SO_2. This is less than the applicability levels of twenty-five (25) tons per year and ten (10) tons per hour of SO_2. Therefore, 326 IAC 7-1 (Sulfur Dioxide Emission Limits) will not apply.

326 IAC 8-1-6 (Best Available Control Technology)

Since the shakeout process has the potential to emit of more than 25 tons per year of VOC, 326 IAC 8-1-6 could be applicable. This source has agreed to limit induction melt throughput to 35,400 tons per year resulting in total VOC emissions from the shakeout process of 1.77 tons per month, equivalent to 21.2 tons per year. Therefore, the shakeout process is not subject to 326 IAC 8-1-6.

326 IAC 9-1 (Carbon Monoxide Emission Limits)

Since the two (2) 10.2 ton per hour electric induction furnaces have a potential capacity of more than 10.0 tons per hour, each, of process weight, 326 IAC 9-1 could be applicable. The two (2) 10.2 ton per hour electric induction furnaces do not emit CO. Therefore, 326 IAC 9-1 (Carbon Monoxide

Emission Limits) will not apply.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

(1) The two (2) 10.2 ton per hour electric induction furnaces, known as EU-3A and EU-3B, the scrap and charge handling and heating operation, known as EU-2, and the magnesium treatment/inoculation operation, known as EU-6, have applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the two (2) 10.2 ton per hour electric induction furnaces, the scrap and charge handling and heating operation, and the magnesium treatment/inoculation operation stack exhaust from stack 001 shall be performed once per working shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

(b) An inspection shall be performed once per working shift of the tundish ladle lids acting as a control of the magnesium treatment/inoculation operation, known as EU-6. In the event that a tundish ladle lid failure has been observed:

(1) The effected unit, known as EU-6, will be shut down immediately until the failed or defective tundish ladle lid part(s) have been replaced.

(2) Based upon the findings of the inspection, any corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

These monitoring conditions are necessary to ensure compliance with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 6-4 (Fugitive Dust Emissions). The tundish ladle lids must operate properly to ensure compliance of the magnesium treatment/inoculation operation with 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

(2) The two (2) casting machines, known as EU-7 and EU-8, three (3) shakeout units, known as EU-11, EU-12, and EU-13, and one (1) casting vibrating conveyor, known as EU-16, exhausted to the wet collector, known as WC-E, exhausted through stack 004 have applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations from stack 004 shall be performed once per working shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

(b) An inspection shall be performed once per working shift of the wet collector, known as WC-E, exhausted through stack 004, acting as a control with ninety-eight percent (98%) control efficiency. In the event that a wet collector failure has been observed:

(1) The effected emission units, known as EU-7, EU-8, EU-11, EU-12, EU-13, and EU-16, will be shut down immediately until the failed or defective wet collector part(s) have been replaced or corrected.

(2) Based upon the findings of the inspection, any corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

(c) The Permittee shall record the total static pressure drop across the wet collector controlling EU-7, EU-8, EU-11, EU-12, EU-13, and EU-16, at least once daily when any of these facilities are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the wet collector shall be maintained within the range of 7.0 to 9.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

These monitoring conditions are necessary because the wet collector for the two (2) casting machines, known as EU-7 and EU-8, three (3) shakeout units, known as EU-11, EU-12, and EU-13, and one (1) casting vibrating conveyor, known as EU-16, must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 5-1 (Opacity Limitations), 326 IAC 6-3 (Process Operations), 326 IAC 6-4 (Fugitive Dust Emissions), and 326 IAC 2-7 (Part 70).

(3) The one (1) casting machine, known as EU-9, one (1) muller, known as EU-17, return sand screens, known as EU-18, two (2) return sand storage bins, known as EU-19 and EU-20, one (1) bond storage bin, known as EU-23, one (1) sand storage bin, known as EU-26, and one (1) return sand conveyor system, known as EU-27, exhausted to the wet collector, known as WC-W, exhausted through stack 003 have applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations from stack 003 shall be performed once per working shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

(b) An inspection shall be performed once per working shift of the wet collector, known as WC-W, exhausted through stack 003, acting as a control with ninety-eight percent (98%) control efficiency. In the event that a wet collector failure has been observed:

(1) The effected emission units, known as EU-9, EU-17, EU-18, EU-19, EU-20, EU-23, EU-26, and EU-27, will be shut down immediately until the failed or defective wet collector part(s) have been replaced or corrected.

(2) Based upon the findings of the inspection, any corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

(c) The Permittee shall record the total static pressure drop across the wet collector controlling EU-9, EU-17, EU-18, EU-19, EU-20, EU-23, EU-26, and EU-27, at least once daily when any of these facilities are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the wet collector shall be maintained within the range of 7.0 to 9.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

These monitoring conditions are necessary because the wet collector for the one (1) casting machine, known as EU-9, one (1) muller, known as EU-17, return sand screens, known as EU-18, two (2) return sand storage bins, known as EU-19 and EU-20, one (1) bond storage bin, known as EU-23, one (1) sand storage bin, known as EU-26, and one (1) return sand conveyor system, known as EU-27, must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 5-1 (Opacity Limitations), 326 IAC 6-3 (Process Operations), 326 IAC 6-4 (Fugitive Dust Emissions), and 326 IAC 2-7 (Part 70).

(4) The two (2) shot blast machines, known as EU-30 and EU-31, ten (10) grinding units, known as EU-32, and ten (10) finishing (air burr) units, known as EU-33, exhausted to a baghouse, known as BH-1, exhausted through stack 006 have applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the emissions from the baghouse exhausts shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(b) An inspection shall be performed once per working shift of the baghouse, known as BH-1, exhausted through stack 006, acting as a control with ninety-eight percent (98%) control efficiency. In the event that a baghouse failure has been observed:

(1) The effected emission units, known as EU-30, EU-31, EU-32, and EU-33, will be shut down immediately until the failed or defective baghouse part(s) have been replaced or corrected.

(2) Based upon the findings of the inspection, any corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

(c) The Permittee shall record the total static pressure drop across the baghouse controlling EU-30, EU-31, EU-32, and EU-33, at least once weekly when any of these facilities are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 2.0 to 4.0 inches of water or a range established during the latest stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading.

These monitoring conditions are necessary because the baghouse for controlling particulate emissions from the two (2) shot blast machines, known as EU-30 and EU-31, ten (10) grinding units, known as EU-32, and ten (10) finishing (air burr) units, known as EU-33, must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 5-1 (Opacity Limitations), 326 IAC 6-3 (Process Operations), 326 IAC 6-4 (Fugitive Dust Emissions), and 326 IAC 2-7 (Part 70).

(5) The one (1) bond storage bin, known as EU-22, exhausted to a baghouse, known as BH-2, exhausted through stack 007 circulated into the storage bin ventilation has applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the emissions from the baghouse exhausts shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(b) An inspection shall be performed once per working shift of the baghouse, known as BH-2, exhausted through stack 007 circulated into the storage bin, acting as a

control with ninety-eight percent (98%) control efficiency. In the event that a baghouse failure has been observed:

(1) The effected emission unit, known as EU22, will be shut down immediately until the failed or defective baghouse part(s) have been replaced or corrected.

(2) Based upon the findings of the inspection, any corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

These monitoring conditions are necessary because the baghouse for controlling particulate emissions from the one (1) bond storage bin, known as EU-22, must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 5-1 (Opacity Limitations), 326 IAC 6-3 (Process Operations), 326 IAC 6-4 (Fugitive Dust Emissions), and 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPS) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached pages 24 through 28 of 28 for detailed air toxic calculations.

Conclusion

The operation of this ductile iron foundry shall be subject to the conditions of the attached proposed Source Modification No. 057-10672-00002.

Company Name: Noblesville Castings, Inc.
Address City IN Zip: 1600 South 8th Street, Noblesville, IN 46060
Source Modification No.: 057-10672
Plt ID: 057-00002
Reviewer: Peter E. Fountaine
Date: February 17, 1999

Netting Credit

Iron Process		Potential Throughput (tons/hr)		PM Control			Average Actual Throughput (tons/yr)
Cupola Melting Furnace		12.0	total	83.3%	medium energy venturi scrubber		25572
SCC 3-04-003-01				(85%capture x 98% control)			
AP-42 Table 12-10-3 & 12-10-5 (EU-1)	PM	PM10	SO2*	NOx	VOC	CO	Pb	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	13.8	12.4	6.00	0.100	0.180	145	1.10	
Percentage of Emissions	16.7%	16.7%	100.00%	100.00%	100.00%	100.00%	16.7%	
Potential Emissions (lbs/hr)	166	149	10.4	1.20	2.16	1740	13.2	21.7
Potential Emissions (tons/yr)	725	652	45.5	5.26	9.46	7621	57.8	94.9
Actual Emissions with controls (lbs/hr)	13.1	11.8	4.92	0.568	1.02	824	1.04	
Actual Emissions with controls (tons/yr)	29.5	26.5	11.1	1.28	2.30	1854	2.35	

* emission factor in lbs/ton coke (1.73 tons per hour burned coke potentially, 0.82 tons per hour burned coke average actual) applicant supplied.

Iron Process		Potential Throughput (tons/hr)		PM Control		Average Actual Throughput (tons/yr)
Scrap & Charge Handling		12.0		0.0%		25572
(EU-2)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2	
Emission Factors lbs/ton produced	0.600	0.360	0.00150	0.000001		
Percentage of Emissions	100.00%	100.00%	100.00%	100.00%		
Potential Emissions (lbs/hr)	7.20	4.32	0.0180	0.0000120	21.7	
Potential Emissions (tons/yr)	31.5	18.9	0.0788	0.0000526	94.9	
Actual Emissions with controls (lbs/hr)	3.41	2.05	0.00852	0.00000568		
Actual Emissions with controls (tons/yr)	7.67	4.60	0.0192	0.0000128		

Methodology:

Actual Throughput = ((25,572 ton per year melt)/(4,500 hours of operation per year)) = 5.68 tons per hour
Potential Throughput was determined by the maximum capacity of the cupola.
PM and PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput (tons/hr)		PM Control		Average Actual Throughput (tons/yr)
Magnesium Treatment (Inoculation)		12.0	total	0.0%		25572

(EU-6)	PM	PM10	VOC	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	1.80	1.62	0.00500	0.00138	0.00000200	
Percentage of Emissions	100.00%	100.00%	100%	100.00%	100.00%	
Potential Emissions (lbs/hr)	21.6	19.4	0.0600	0.0165	0.0000240	21.7
Potential Emissions (tons/yr)	94.6	85.1	0.263	0.0725	0.000105	94.9
Actual Emissions with controls (lbs/hr)	10.2	9.21	0.0284	0.00784	0.0000114	
Actual Emissions with controls (tons/yr)	23.0	20.7	0.0639	0.0176	0.0000256	

Iron Process		Potential Throughput (tons/hr)		PM Control		Average Actual Throughput (tons/yr)
Pouring Casting		12.0	total	39.2%		25572
				(40.0%capture x 98% control)		

(EU-7, EU-8, EU-9)	PM	PM10	SO2	NOx	VOC	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	4.20	2.80	0.0200	0.0100	0.140	0.0105	0.00000400	
Percentage of Emissions	60.8%	60.8%	100.00%	100.00%	100.00%	60.8%	60.8%	
Potential Emissions (lbs/hr)	50.4	33.6	0.240	0.120	1.68	0.126	0.0000480	21.7
Potential Emissions (tons/yr)	221	147	1.05	0.526	7.36	0.552	0.000210	94.9
Actual Emissions with controls (lbs/hr)	14.5	9.67	0.114	0.0568	0.796	0.0363	0.0000138	
Actual Emissions with controls (tons/yr)	32.7	21.8	0.256	0.128	1.79	0.0816	0.0000311	

Methodology:

Actual Throughput = ((25,572 ton per year melt)/(4,500 hours of operation per year)) = 5.68 tons per hour
Potential Throughput was determined by the maximum capacity of the cupola.
Pouring Casting PM, PM 10, SO2, NOx, and VOC emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Magnesium Treatment (Inoculation), Pb, and Be emission factors were supplied by the applicant.

Iron Process	Potential Throughput (tons/hr)		PM Control	Average Actual Throughput (tons/yr)
Casting Cooling	12.0	total	49.0%	25572
			(50% capture x 98% control)	

(EU-7A, EU-8A, EU-9A)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	1.40	1.40	0.00350	0.00000100	
Percentage of Emissions	51.0%	51.0%	51.0%	51.0%	
Potential Emissions (lbs/hr)	16.8	16.8	0.0420	0.0000120	21.7
Potential Emissions (tons/yr)	73.6	73.6	0.1840	0.0000526	94.9
Actual Emissions with controls (lbs/hr)	4.06	4.06	0.0101	0.00000290	
Actual Emissions with controls (tons/yr)	9.13	9.13	0.0228	0.00000652	

Iron Process	Potential Throughput (tons/hr)		PM Control	Average Actual Throughput (tons/yr)
Shakeout	12.0	total	88.2%	25572
			(90% capture x 98% control)	

(EU-11, EU-12, EU-13)	PM	PM10	VOC	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	3.20	2.24	1.20	0.00800	0.00000300	
Percentage of Emissions	11.80%	11.80%	100.00%	11.80%	11.80%	
Potential Emissions (lbs/hr)	38.4	26.9	14.4	0.0960	0.0000360	21.7
Potential Emissions (tons/yr)	168	118	63.1	0.420	0.000158	94.9
Actual Emissions with controls (lbs/hr)	2.15	1.50	6.82	0.00536	0.00000201	
Actual Emissions with controls (tons/yr)	4.83	3.38	15.3	0.0121	0.00000453	

Methodology:

Actual Throughput = ((25,572 ton per year melt)/(4,500 hours of operation per year)) = 5.68 tons per hour
Potential Throughput was determined by the maximum capacity of the cupola.
PM , PM 10, and VOC emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb and Be emission factors were supplied by the applicant.

Iron Process	Potential Throughput (tons/hr)		PM Control	Average Actual Throughput (tons/yr)
Sand Grinding and Handling	60.0	total	68.6%	127800
			(70% capture x 98% control)	

(EU-16, through EU-27)	PM	PM10	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton sand handled	0.650	0.540	
Percentage of Emissions	31.4%	31.4%	
Potential Emissions (lbs/hr)	39.0	32.4	46.3
Potential Emissions (tons/yr)	171	142	203
Actual Emissions with controls (lbs/hr)	5.80	4.82	
Actual Emissions with controls (tons/yr)	13.0	10.8	

Iron Process	Potential Throughput (tons/hr)		PM Control	Average Actual Throughput (tons/yr)
Tumbleblast Cleaning	6.60	total	98.0%	14040
			(99% capture x 99% control)	

(EU-30, EU-31)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton finished casting	15.5	1.70	0.0450	0.0000170	
Percentage of Emissions	1.99%	1.99%	1.99%	1.99%	
Potential Emissions (lbs/hr)	102	11.2	0.297	0.000112	14.5
Potential Emissions (tons/yr)	448	49.1	1.30	0.000491	63.6
Actual Emissions with controls (lbs/hr)	0.962	0.106	0.00279	0.00000106	
Actual Emissions with controls (tons/yr)	2.17	0.237	0.00629	0.00000237	

Methodology:

Actual Throughput (Sand)= ((Average actual melt throughput of 5.68 tons per year)*(applicant supplied ratio of 5.0)
Actual Throughput (Tumbleblast)= ((Average actual melt throughput of 5.68 tons per year)*(applicant supplied ratio of 55.0% finished castings)
Potential Throughput = (Actual throughput) x ((12.0 tpy cupola potential)/(5.68 tpy cupola actual).
PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
PM, Pb, and Be emission factors were supplied by the applicant.

Iron Process	Potential Throughput (tons/hr)		PM Control	Average Actual Throughput (tons/yr)
Casting Grinding and Finishing	6.60	total	98.0%	14040
			(99% capture x 99% control)	

(EU-32, EU-33)	PM	PM10	Pb	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton finished casting	0.0100	0.00450	0.00000800	
Percentage of Emissions	1.99%	1.99%	1.99%	
Potential Emissions (lbs/hr)	0.0660	0.0297	0.0000528	14.5
Potential Emissions (tons/yr)	0.289	0.130	0.000231	63.6
Actual Emissions with controls (lbs/hr)	0.000621	0.000279	0.000000497	
Actual Emissions with controls (tons/yr)	0.00140	0.000629	0.00000112	

Iron Process	Potential Throughput (tons/hr)		PM Control	Average Actual Throughput (tons/yr)
Core Manufacture	0.986	total	70.0% **	2102

(EU-28, EU-29)	PM	PM10	VOC	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton cores produced	0.350	0.350	0.650	
Percentage of Emissions	30.0%	30.0%	100.0%	
Potential Emissions (lbs/hr)	0.345	0.345	1366.300	4.06
Potential Emissions (tons/yr)	1.51	1.51	5984.39	17.8
Actual Emissions with controls (lbs/hr)	0.0490	0.0490	0.304	
Actual Emissions with controls (tons/yr)	0.110	0.110	0.683	

**OEPA allows a building to act as a capture device with a 70% overall control on non-heated sources.

Methodology:

Actual Throughput (Casting Grind Finish)= ((Average actual melt throughput of 5.68 tons per year)*(applicant supplied ratio of 55.0% finished castings)
Actual Throughput (Core Manufacture)= ((Average actual melt throughput of 5.68 tons per year)*(applicant supplied ratio of 8.22% cores produced)
Potential Throughput = (Actual throughput) x ((12.0 tpy cupola potential)/(5.68 tpy cupola actual).
PM and PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb, Be, and VOC emission factors were supplied by the applicant.
PM, PM10, and VOC emission factors and building capture with 70% control were supplied by the applicant from the OEPA.

Iron Process	Potential Throughput (tons/hr)		PM Control	Average Actual Throughput (tons/yr)
Core Sand Handling	0.986	total	93.1%	2102
			(95% capture x 98% control)	

	PM	PM10	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton sand handled	0.650	0.540	
Percentage of Emissions	6.90%	6.90%	
Potential Emissions (lbs/hr)	0.641	0.533	4.06
Potential Emissions (tons/yr)	2.81	2.33	17.8
Actual Emissions with controls (lbs/hr)	0.0209	0.0174	
Actual Emissions with controls (tons/yr)	0.0471	0.0392	

Iron Process
Natural Gas Usage

Potential Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/hr)	Average Actual Throughput (MMCF/yr)
16.8	0.0168	35.8

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.60	7.60	0.600	100.0	5.50	84.0
Potential Emission in tons/yr	0.559	0.559	0.0442	7.36	0.405	6.18
Limited Emission in tons/yr	0.136	0.136	0.0107	1.79	0.0984	1.50

Methodology:

Actual Throughput (Core Sand Handling)= ((Average actual melt throughput of 5.68 tons per year)*(applicant supplied ratio of 8.22% cores produced)
Potential Throughput = (Actual throughput) x ((12.0 tpy cupola potential)/(5.68 tpy cupola actual).
Core Sand Handling emission factors were supplied by the applicant.
Actual Throughput (MMcf)= ((Average actual melt throughput of 5.68 tons per year)*(applicant supplied ratio of 0.14% natural gas used)
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Natural Gas emission factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3.

Grey Iron Foundry

SUMMARY OF NETTING EMISSIONS

Process Description		PM (tpy)	PM10 (tpy)	SO2 (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Be (tpy)
Cupola	Potential	725	652	45.5	5.26	9.46	7621	57.8	0.00
	Actual Controlled	29.5	26.5	11.1	1.28	2.30	1854	2.35	0.00
Scrap and Charge Handling	Potential	31.5	18.9	0.00	0.00	0.00	0.00	0.0788	0.0000526
	Actual Controlled	7.67	4.60	0.00	0.00	0.00	0.00	0.0192	0.0000128
Inoculation	Potential	94.6	85.1	0.00	0.00	0.263	0.00	0.0725	0.000105
	Actual Controlled	23.0	20.7	0.00	0.00	0.0639	0.00	0.0176	0.0000256
Pouring Casting	Potential	221	147	1.05	0.526	7.36	0.00	0.552	0.000210
	Actual Controlled	32.7	21.8	0.256	0.128	1.79	0.00	0.0816	0.0000311
Casting Cooling	Potential	73.6	73.6	0.00	0.00	0.00	0.00	0.184	0.0000526
	Actual Controlled	9.13	9.13	0.00	0.00	0.00	0.00	0.0228	0.00000652
Shakeout	Potential	168	118	0.00	0.00	63.1	0.00	0.420	0.000158
	Actual Controlled	4.83	3.38	0.00	0.00	15.3	0.00	0.0121	0.00000453
Sand Grinding and Handling	Potential	171	142	0.00	0.00	0.00	0.00	0.00	0.00
	Actual Controlled	13.0	10.8	0.00	0.00	0.00	0.00	0.00	0.00
Tumbleblast Cleaning	Potential	448	49.1	0.00	0.00	0.00	0.00	1.30	0.000491
	Actual Controlled	2.17	0.237	0.00	0.00	0.00	0.00	0.00629	0.00000237
Casting Grinding and Finishing	Potential	0.289	0.130	0.00	0.00	0.00	0.00	0.000231	0.00
	Actual Controlled	0.00140	0.000629	0.00	0.00	0.00	0.00	0.00000112	0.00
Core Manufacture	Potential	1.51	1.51	0.00	0.00	5984.39	0.00	0.00	0.00
	Actual Controlled	0.110	0.110	0.00	0.00	0.683	0.00	0.00	0.00
Core sand Handling	Potential	2.81	2.33	0.00	0.00	0.00	0.00	0.00	0.00
	Actual Controlled	0.0471	0.0392	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Usage	Potential	0.559	0.559	0.0442	7.36	0.405	6.18	0.00	0.00
	Actual Controlled	0.136	0.136	0.0107	1.79	0.0984	1.50	0.00	0.00
TOTALS	**Potential:**	**1938**	**1290**	**46.6**	**13.1**	**6065.0**	**7627**	**60.4**	**0.00107**
Emission Credit	**Actual Controlled:**	**122**	**97.4**	**11.3**	**3.20**	**20.3**	**1855**	**2.51**	**0.0000829**
		PM (tpy)	PM10 (tpy)	SO2 (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Be (tpy)

Appendix A: Source Modification Increase of Emission Calculations
Grey Iron Foundry

Company Name: Noblesville Castings, Inc.
Address City IN Zip: 1600 South 8th Street, Noblesville, IN 46060
Source Modification No.: 057-10672
Plt ID: 057-00002
Reviewer: Peter E. Fountaine
Date: February 17, 1999

Source Modification Increase of Emissions Calculations

Iron Process	Potential Throughput Increase (tons/hr)			PM Control	Existing Limited Throughput (tons/hr)	
Electric Induction	(4.041 - 1.365) =	2.68	total	0.0%	1.365	@ 8760 hours per year

(EU-3A and EU-3B)	PM	PM10	Pb	Be
Emission Factors lbs/ton produced	0.900	0.860	0.000689	0.00000100
Percentage of Emissions	100.00%	100.00%	100.00%	100.00%
Emissions Increase (lbs/hr)	2.41	2.30	0.00184	0.00000268
Emissions Increase (tons/yr)	10.5	10.1	0.00808	0.0000117

Iron Process	Potential Throughput Increase (tons/hr)			PM Control	Existing Limited Throughput (tons/hr)	
Scrap & Charge Handling/Heating	(4.041 - 1.365) =	2.68		0.0%	1.365	@ 8760 hours per year

(EU-2)	PM	PM10	Pb	Be
Emission Factors lbs/ton produced	0.600	0.360	0.00150	0.000001
Percentage of Emissions	100.00%	100.00%	100.00%	100.00%
Emissions Increase (lbs/hr)	1.61	0.963	0.00401	0.00000268
Emissions Increase (tons/yr)	7.03	4.22	0.0176	0.0000117

Methodology:

The new limited throughput is equal to 35,400 tons per year of 50/50 scrap and ductile iron remelt, eq. to 4.04 tons per hour at 8,760 hours.
Existing Limited Throughput = (Limited yearly throughput of 11,960 tons per year of iron)/(8760 hours per year)
Potential Throughput was determined by the maximum capacity of the electric induction furnaces.
PM and PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput Increase (tons/hr)		PM Control		Existing Limited Throughput (tons/hr)	
Magnesium Treatment (Inoculation)	(4.041 - 1.365) =	2.68	total	70.0%	**	1.365	@ 8760 hours per year

(EU-6)	PM	PM10	VOC	Pb	Be
Emission Factors lbs/ton produced	1.80	1.62	0.00500	0.00138	0.000002
Percentage of Emissions	30.00%	30.00%	100.00%	30.00%	30.00%
Emissions Increase (lbs/hr)	4.82	4.34	0.0134	0.00369	0.00000535
Emissions Increase (tons/yr)	21.1	19.0	0.0586	0.0162	0.0000234
Emissions Increase after controls (tons/yr)	6.33	5.70	0.0586	0.00485	0.00000703

** OEPA allows a 70.0% overall control efficiency for enclosed transfer operations, in this case Tundish ladle lids.

Iron Process		Potential Throughput Increase (tons/hr)		PM Control		Existing Limited Throughput (tons/hr)	
Pouring Casting	(4.041 - 1.365) =	2.68	total	66.2% (67.5%capture x 95% control)		1.365	@ 8760 hours per year

(EU-7, EU-8, EU-9)	PM	PM10	SO2	NOx	VOC	Pb	Be
Emission Factors lbs/ton produced	4.20	2.80	0.0200	0.0100	0.140	0.0105	0.000004
Percentage of Emissions	33.80%	33.80%	100.00%	100.00%	100.00%	33.80%	33.80%
Emissions Increase (lbs/hr)	11.2	7.49	0.0535	0.0268	0.375	0.0281	0.0000107
Emissions Increase (tons/yr)	49.2	32.8	0.234	0.117	1.64	0.123	0.0000469
Emissions Increase after controls (tons/yr)	16.6	11.1	0.234	0.117	1.64	0.0416	0.0000158

Methodology:

The new limited throughput is equal to 35,400 tons per year of 50/50 scrap and ductile iron remelt, eq. to 4.04 tons per hour at 8,760 hours.
Existing Limited Throughput = (Limited yearly throughput of 11,960 tons per year of iron)/(8760 hours per year)
Potential Throughput was determined by the maximum capacity of the electric induction furnaces.
Pouring Casting PM, PM 10, SO2, NOx, and VOC emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
PM capture is based on the best engineering judgement of hood capture ability.
EU-7 and EU-8 are controlled by WC-E to s/v 004
EU-9 is controlled by WC-W to s/v 003
Magnesium Treatment (Inoculation), Pb, and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput Increase (tons/hr)		PM Control		Existing Limited Throughput (tons/hr)	
Casting Cooling	(4.041 - 1.365) =	2.68	total	49.0%		1.365	@ 8760 hours per year
				(50% capture x 98% control)			

(EU-7A, EU-8A, EU-9A)	PM	PM10	Pb	Be
Emission Factors lbs/ton produced	1.40	1.40	0.00350	0.00000100
Percentage of Emissions	51.00%	51.00%	51.00%	51.00%
Emissions Increase (lbs/hr)	3.75	3.75	0.00937	0.00000268
Emissions Increase (tons/yr)	16.4	16.4	0.0410	0.0000117
Emissions Increase after controls (tons/yr)	8.37	8.37	0.0209	0.00000598

Iron Process		Potential Throughput Increase (tons/hr)		PM Control		Existing Limited Throughput tons/hr	
Shakeout	(4.041 - 1.365) =	2.68	total	88.2%		1.365	@ 8760 hours per year
				(90% capture x 98% control)			

(EU-11, EU-12, EU-13)	PM	PM10	VOC	Pb	Be
Emission Factors lbs/ton produced	3.20	2.24	1.20	0.00800	0.00000300
Percentage of Emissions	11.80%	11.80%	100.00%	11.80%	11.80%
Emissions Increase (lbs/hr)	8.56	5.99	3.21	0.0214	0.00000803
Emissions Increase (tons/yr)	37.5	26.3	14.1	0.0938	0.0000352
Emissions Increase after controls (tons/yr)	4.43	3.10	14.1	0.0111	0.00000415

Methodology:

The new limited throughput is equal to 35,400 tons per year of 50/50 scrap and ductile iron remelt, eq. to 4.04 tons per hour at 8,760 hours.
Existing Limited Throughput = (Limited yearly throughput of 11,960 tons per year of iron)/(8760 hours per year)
Potential Throughput was determined by the maximum capacity of the electric induction furnaces.
PM capture is based on the best engineering judgement of hood capture ability.
EU-7A, EU-8A, and EU-9A are vented uncontrolled to s/v 005, but 50% of emissions are estimated to be captured by the hoods for the wet collectors
EU-11, EU-12, and EU-13 are controlled by WC-E to s/v 004
PM , PM 10, and VOC emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput (tons/hr)		PM Control	Existing Limited Throughput (tons/hr)	
Sand Grinding and Handling	(20.2 - 6.83) =	13.4	total	68.6% (70% capture x 98% control)	6.83	@ 8760 hours per year

(EU-16, through EU-27)	PM	PM10
Emission Factors lbs/ton sand handled	0.650	0.540
Percentage of Emissions	31.40%	31.40%
Emissions Increase (lbs/hr)	8.69	7.22
Emissions Increase (tons/yr)	38.1	31.6
Emissions Increase after controls (tons/yr)	12.0	9.93

Iron Process		Potential Throughput Increase (tons/hr)		PM Control	Existing Limited Throughput (tons/hr)	
Tumbleblast Cleaning	(2.22 - 0.750) =	1.47	total	97.0% (99% capture x 98% control)	0.750	@ 8760 hours per year

(EU-30, EU-31)	PM	PM10	Pb	Be
Emission Factors lbs/ton finished casting	15.5	1.70	0.0450	0.0000170
Percentage of Emissions	3.00%	3.00%	3.00%	3.00%
Emissions Increase (lbs/hr)	22.8	2.50	0.0662	0.0000250
Emissions Increase (tons/yr)	100	10.9	0.290	0.000109
Emissions Increase after controls (tons/yr)	2.99	0.328	0.00869	0.00000328

Methodology:

Increased limit (Sand Grinding Handling) = (4.04 tons melt)*(applicant supplied ratio of 5.0)
Limited Throughput (Sand Grinding/Handling) = (Limited yearly throughput of 35,400 tons per year of sand)/(8760 hours per year)
Increased limit (Tumbleblast Clean) = (4.04 tons melt)*(applicant supplied ratio of 55.0% finished castings)
Limited Throughput (Tumbleblast Cleaning) = (Limited yearly throughput of 6,578 tons per year of finished castings)/(8760 hours per year)
PM capture is based on the best engineering judgement of hood capture ability.
EU-16 is controlled by WC-E to s/v 004
EU-17, EU-18, EU-19, EU-20, EU-23, EU-26, and EU-27 are controlled by WC-W to s/v 003
EU-22 is controlled by BH-2 circulated to s\v 007
EU-30 and EU-31 are controlled by BH-1 to s/v 006
PM and PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput Increase (tons/hr)		PM Control		Existing Limited Throughput (tons/hr)	
Casting Grinding and Finishing	(2.22 - 0.750) =	1.47	total	97.0%		0.750	@ 8760 hours per year
				(99% capture x 98% control)			

(EU-32, EU-33)	PM	PM10	Pb
Emission Factors lbs/ton finished casting	0.0100	0.00450	0.00000800
Percentage of Emissions	3.00%	3.00%	3.00%
Emissions Increase (lbs/hr)	0.0147	0.0066	0.0000118
Emissions Increase (tons/yr)	0.0644	0.0290	0.0000515
Emissions Increase after controls (tons/yr)	0.00193	0.000869	0.00000155

Iron Process		Potential Throughput Increase (tons/hr)		PM Control		Existing Limited Throughput (tons/hr)	
Core Manufacture	(0.332 - 0.112) =	0.220	total	70.0%	**	0.112	@ 8760 hours per year

(EU-28, EU-29)	PM	PM10	VOC
Emission Factors lbs/ton cores produced	0.350	0.350	0.650
Percentage of Emissions	30.00%	30.00%	100.00%
Emissions Increase (lbs/hr)	0.0770	0.0770	0.143
Emissions Increase (tons/yr)	0.337	0.337	0.626
Emissions Increase after controls (tons/yr)	0.101	0.101	0.626

**OEPA allows a building to act as a capture device with a 70% overall control on non-heated sources.

Methodology:

Increased limit = (4.04 tons melt)*(applicant supplied ratio of 55.0% finished castings)
Limited Throughput (Casting Grinding & Finishing) = (Limited yearly throughput of 6,578 tons per year of finished castings)/(8760 hours per year)
Increased limit = (4.04 tons melt)*(applicant supplied ratio of 8.22% cores manufactured)
Limited Throughput (Core Manufacture) = (Limited yearly throughput of 983 tons per year of cores manufactured)/(8760 hours per year)
PM capture is based on the best engineering judgement of hood capture ability.
EU-32 and EU-33 are controlled by BH-1 to s/v 006
PM and PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
VOC emission factors and building capture with 70% control were supplied by the applicant from the OEPA.

Iron Process		Potential Throughput Increase (tons/hr)		PM Control	Existing Limited Throughput (tons/hr)	
Core Sand Handling	(0.332 - 0.112) =	0.220	total	93.1% (95% capture x 98% control)	0.112	@ 8760 hours per year

	PM	PM10
Emission Factors lbs/ton sand handled	0.650	0.540
Percentage of Emissions	6.90%	6.90%
Emissions Increase (lbs/hr)	0.143	0.119
Emissions Increase (tons/yr)	0.626	0.520
Emissions Increase after controls (tons/yr)	0.0432	0.0359

Iron Process
Natural Gas Usage

Potential Heat Input Capacity (MMBtu/hr)		Potential Throughput Increase (MMCF/hr)		Existing Limited Throughput (MMCF/hr)	
28.6	(0.00566 - 0.00191) =	0.00375		0.00191	@ 8760 hours per year

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.60	7.60	0.600	100	5.50	84.0
Emission increase tons/yr	0.125	0.125	0.0099	1.64	0.090	1.38
Limited Emission in tons/yr	0.0636	0.0636	0.00502	0.837	0.0460	0.703

Methodology:

PM capture is based on the best engineering judgement of hood capture ability.
PM control is performed by the wet collectors.
Limited Throughput (Core Sand Handling) = (Limited yearly throughput of 983 tons per year of cores manufactured)/(8760 hours per year)
Increased limit = (4.04 tons melt)*(applicant supplied ratio of 8.22% cores manufactured)
Core Sand Handling emission factors were supplied by the applicant.
Natural Gas emission factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Increased limit = (4.04 tons melt)*(applicant supplied ratio of 0.14% natural gas used)

Iron Process		Potential Throughput Increase (tons/hr)		PM Control	Existing Limited Throughput (tons/hr)	
Holding Furnace	(2.50 - 1.36) =	1.14	total	0.0%	1.360	@ 8760 hours per year

(EU-4)	PM	PM10
Emission Factors lbs/ton transferred	0.0560	0.0560
Percentage of Emissions	100.00%	100.00%
Potential Emissions Increase (lbs/hr)	0.064	0.064
Potential Emissions Increase (tons/yr)	0.280	0.280

Iron Process		Potential Throughput Increase (tons/hr)		PM Control	Existing Limited Throughput (tons/hr)	
Holding Furnace	(2.50 - 0.00) =	2.50	total	0.0%	0.000	@ 8760 hours per year
					new construction	

(EU-5)	PM	PM10
Emission Factors lbs/ton transferred	0.0560	0.0560
Percentage of Emissions	100.00%	100.00%
Potential Emissions Increase (lbs/hr)	0.140	0.140
Potential Emissions Increase (tons/yr)	0.613	0.613

Methodology:

Limited Throughput = (Limited yearly throughput of 11,960 tons per year of iron)/(8760 hours per year)
Potential Throughput Increase is determined by the capacity of the electric induction furnace.
PM and PM10 emission factors were supplied by the applicant.

Grey Iron Foundry

SUMMARY OF EMISSIONS

Process Description		PM (tpy)	PM10 (tpy)	SO2 (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Be (tpy)
Electric Induction	Increase	10.5	10.1	0.00	0.00	0.00	0.00	0.00808	0.0000117
	Inc after control	10.5	10.1	0.00	0.00	0.00	0.00	0.00808	0.0000117
Scrap and Charge Handling	Increase	7.03	4.22	0.00	0.00	0.00	0.00	0.0176	0.0000117
	Inc after control	7.03	4.22	0.00	0.00	0.00	0.00	0.0176	0.0000117
Inoculation	Increase	21.1	19.0	0.00	0.00	0.0586	0.00	0.0162	0.0000234
70.0% Controlled	Inc after control	7.07	6.36	0.00	0.00	0.0586	0.00	0.00541	0.00000785
Pouring Casting	Increase	49.2	32.8	0.234	0.117	1.64	0.00	0.123	0.0000469
66.2% Controlled	Inc after control	16.6	11.1	0.234	0.117	1.64	0.00	0.0416	0.0000158
Casting Cooling	Increase	16.4	16.4	0.00	0.00	0.00	0.00	0.0410	0.0000117
49.0% Controlled	Inc after control	8.37	8.37	0.00	0.00	0.00	0.00	0.0209	0.00000598
Shakeout	Increase	37.5	26.3	0.00	0.00	14.1	0.00	0.0938	0.0000352
88.2% Controlled	Inc after control	4.43	3.10	0.00	0.00	14.1	0.00	0.0111	0.00000415
Sand Grinding and Handling	Increase	38.1	31.6	0.00	0.00	0.00	0.00	0.00	0.00
68.6% Controlled	Inc after control	12.0	9.93	0.00	0.00	0.00	0.00	0.00	0.00
Tumbleblast Cleaning	Increase	100	10.9	0.00	0.00	0.00	0.00	0.290	0.000109
97.0% Controlled	Inc after control	2.99	0.328	0.00	0.00	0.00	0.00	0.00869	0.00000328
Casting Grinding and Finishing	Increase	0.0644	0.0290	0.00	0.00	0.00	0.00	0.0000515	0.00
97.0% Controlled	Inc after control	0.00193	0.000869	0.00	0.00	0.00	0.00	0.00000155	0.00
Core Manufacture	Increase	0.337	0.337	0.00	0.00	0.626	0.00	0.00	0.00
70.0% Controlled	Inc after control	0.104	0.104	0.00	0.00	0.626	0.00	0.00	0.00
Core sand Handling	Increase	0.626	0.520	0.00	0.00	0.00	0.00	0.00	0.00
93.1% Controlled	Inc after control	0.0432	0.0359	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Usage	Increase	0.125	0.125	0.00986	1.64	0.0903	1.38	0.00	0.00
	Inc after control	0.125	0.125	0.00986	1.64	0.0903	1.38	0.00	0.00
Holding Furnace (EU-4)	Increase	0.280	0.280	0.00	0.00	0.00	0.00	0.00	0.00
Holding Furnace (EU-5)	Increase	0.613	0.613	0.00	0.00	0.00	0.00	0.00	0.00

Totals:	PM (tpy)	PM10 (tpy)	SO2 (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Be (tpy)
Increased Emissions:	**281**	**153**	**0.244**	**1.76**	**16.5**	**1.38**	**0.589**	**0.000250**
Increased Emissions After Controls:	**70.2**	**54.6**	**0.244**	**1.76**	**16.5**	**1.38**	**0.113**	**0.0000606**
Emissions credit from netting:	**122**	**97.4**	**11.3**	**3.19**	**20.3**	**1855**	**2.51**	**0.0000829**
Increased emissions after controls - emission credit:	**-51.8**	**-42.8**	**-11.1**	**-1.43**	**-3.82**	**-1854**	**-2.40**	**-0.0000223**
PSD Modification Threshold Limits:	PM (tpy)	PM10 (tpy)	SO2 (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Be (tpy)
	25.0	15.0	40.0	40.0	40.0	100	0.600	0.000400

Cupola netting results in a net decrease of emissions.

Appendix A: Potential and Limited Emission Calculations
Grey Iron Foundry

Company Name: Noblesville Castings, Inc.
Address City IN Zip: 1600 South 8th Street, Noblesville, IN 46060
Source Modification No.: 057-10672
Plt ID: 057-00002
Reviewer: Peter E. Fountaine
Date: February 17, 1999

Iron Process	Potential Throughput (tons/hr)		PM Control	Limited Throughput (tons/yr)
Two (2) Electric Induction Furnaces	20.4 total two (2) @ 10.2 tons per hour		0.0%	35400

(EU-3A and EU-3B)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2*
Emission Factors lbs/ton produced	0.900	0.860	0.000689	0.00000100	
Percentage of Emissions	100.00%	100.00%	100.00%	100.00%	
Potential Emissions (lbs/hr)	18.4	17.5	0.0141	0.0000204	19.4 *
Potential Emissions (tons/yr)	80.4	76.8	0.0616	0.0000894	85.1
Limited Emissions with throughput limit and controls (tons/yr)	15.9	15.2	0.0122	0.0000177	

*process weight of 10.2 tons per hour

Iron Process	Potential Throughput (tons/hr)	PM Control	Limited Throughput (tons/yr)
Scrap & Charge Handling and Heating	20.4	0.0%	35400

(EU-2)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	0.600	0.360	0.00150	0.000001	
Percentage of Emissions	100.00%	100.00%	100.00%	100.00%	
Potential Emissions (lbs/hr)	12.2	7.34	0.0306	0.0000204	30.9
Potential Emissions (tons/yr)	53.6	32.2	0.134	0.0000894	135.4
Limited Emissions with throughput limit and controls (tons/yr)	10.6	6.37	0.0266	0.0000177	

Methodology:

Limited Throughput @ 8760 hours per year = ((35,400 tons per year total limited melt throughput)/(8760 hours per year)) = 4.04 tons per hour limited melt throughput
Potential Throughput was determined by the maximum capacity of the electric induction furnaces.
PM and PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb and Be emission factors were supplied by the applicant.

Iron Process	Potential Throughput (tons/hr)		PM Control		Limited Throughput (tons/yr)
Magnesium Treatment (Inoculation)	20.4	total	70.0%	**	35400

(EU-6)	PM	PM10	VOC	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	1.80	1.62	0.00500	0.00138	0.00000200	
Percentage of Emissions	30.00%	30.00%	100%	30.00%	30.00%	
Potential Emissions (lbs/hr)	36.7	33.0	0.102	0.0281	0.0000408	30.9
Potential Emissions (tons/yr)	161	145	0.447	0.123	0.000179	135
Limited Emissions with throughput limit and controls (tons/yr)	9.56	8.60	0.0885	0.00732	0.0000106	

** OEPA allows a 70.0% overall control efficiency for enclosed transfer operations, in this case Tundish ladle lids.

Iron Process	Potential Throughput (tons/hr)		PM Control		Limited Throughput (tons/yr)
Pouring Casting	20.4	total	66.2% (67.5%capture x 98% collection)		35400

(EU-7, EU-8, EU-9)	PM	PM10	SO2	NOx	VOC	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	4.20	2.80	0.0200	0.0100	0.140	0.0105	0.000004	
Percentage of Emissions	33.85%	33.85%	100.00%	100.00%	100.00%	33.85%	33.85%	
Potential Emissions (lbs/hr)	85.7	57.1	0.408	0.204	2.86	0.214	0.0000816	30.9
Potential Emissions (tons/yr)	375	250	1.787	0.894	12.5	0.938	0.000357	135
Limited Emissions with throughput limit and controls (tons/yr)	25.2	16.8	0.354	0.177	2.48	0.0629	0.0000240	

Methodology:

PM capture is based on the best engineering judgement of hood capture ability.
EU-7 and EU-8 are controlled by WC-E to s/v 004
EU-9 is controlled by WC-W to s/v 003
Potential Throughput was determined by the maximum capacity of the electric induction furnaces.
Pouring Casting PM, PM 10, SO2, NOx, and VOC emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Magnesium Treatment (Inoculation), Pb, and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput (tons/hr)		PM Control		Limited Throughput (tons/yr)
Casting Cooling		20.4	total	49.0%		35400
				(50% capture x 98% collection)		

(EU-7A, EU-8A, EU-9A)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	1.40	1.40	0.00350	0.00000100	
Percentage of Emissions	51.0%	51.0%	51.0%	51.0%	
Potential Emissions (lbs/hr)	28.6	28.6	0.0714	0.0000204	30.9
Potential Emissions (tons/yr)	125	125	0.313	0.0000894	135
Limited Emissions with throughput limit and controls (tons/yr)	12.6	12.6	0.0316	0.00000903	

Iron Process		Potential Throughput (tons/hr)		PM Control		Limited Throughput (tons/yr)
Shakeout		20.4	total	88.2%		35400
				(90% capture x 98% collection)		

(EU-11, EU-12, EU-13)	PM	PM10	VOC	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton produced	3.20	2.24	1.20	0.00800	0.00000300	
Percentage of Emissions	11.80%	11.80%	100.00%	11.80%	11.80%	
Potential Emissions (lbs/hr)	65.3	45.7	24.5	0.163	0.0000612	30.9
Potential Emissions (tons/yr)	286	200	107	0.715	0.000268	135
Limited Emissions with throughput limit and controls (tons/yr)	6.68	4.68	21.2	0.0167	0.00000627	

Methodology:

PM capture is based on the best engineering judgement of hood capture ability.
EU-7A, EU-8A, and EU-9A are vented uncontrolled to s/v 005, but 50% of emissions are estimated to be captured by the hoods for the wet collectors
EU-11, EU-12, and EU-13 are controlled by WC-E to s/v 004
Potential Throughput was determined by the maximum capacity of the electric induction furnaces.
PM , PM 10, and VOC emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput (tons/hr)		PM Control	Limited Throughput (tons/yr)
Sand Grinding and Handling		102.0	total	68.6%	177000
				(70% capture x 98% collection)	

(EU-16, through EU-27)	PM	PM10	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton sand handled	0.650	0.540	
Percentage of Emissions	31.4%	31.4%	
Potential Emissions (lbs/hr)	66.3	55.1	51.5
Potential Emissions (tons/yr)	290	241	225
Limited Emissions with throughput limit and controls (tons/yr)	18.1	15.0	

Iron Process		Potential Throughput (tons/hr)		PM Control	Limited Throughput (tons/yr)
Tumbleblast Cleaning		11.2	total	97.0%	19470
				(99% capture x 98% collection)	

(EU-30, EU-31)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton finished casting	15.5	1.70	0.0450	0.0000170	
Percentage of Emissions	3.00%	3.00%	3.00%	3.00%	
Potential Emissions (lbs/hr)	174	19.1	0.505	0.000191	20.7
Potential Emissions (tons/yr)	762	83.5	2.21	0.000835	90.7
Limited Emissions with throughput limit and controls (tons/yr)	4.53	0.496	0.0131	0.00000496	

Methodology:

PM capture is based on the best engineering judgement of hood capture ability.
EU-16 is controlled by WC-E to s/v 004
EU-17, EU-18, EU-19, EU-20, EU-23, EU-26, and EU-27 are controlled by WC-W to s/v 003
EU-22 is controlled by BH-2 circulated to s\v 007
EU-30 and EU-31 are controlled by BH-1 to s/v 006
Potential Throughput (Sand Grinding and Handling) = ((20.4 tons potential melt per hour)*(applicant supplied ratio of 5.0))
Potential Throughput (Tumbleblast Clean) = ((20.4 tons potential melt per hour)*(applicant supplied ratio of 55.0% finished castings))
PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
PM, Pb, and Be emission factors were supplied by the applicant.

Iron Process		Potential Throughput (tons/hr)		PM Control		Limited Throughput (tons/yr)
Casting Grinding and Finishing		11.2	total	97.0%		19470
				(99% capture x 98% collection)		

(EU-32, EU-33)	PM	PM10	Pb	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton finished casting	0.0100	0.00450	0.00000800	
Percentage of Emissions	3.00%	3.00%	3.00%	
Potential Emissions (lbs/hr)	0.1122	0.0505	0.0000898	20.7
Potential Emissions (tons/yr)	0.491	0.221	0.000393	90.7
Limited Emissions with throughput limit and controls (tons/yr)	0.00292	0.001314	0.00000234	

Iron Process		Potential Throughput (tons/hr)		PM Control		Limited Throughput (tons/yr)
Core Manufacture		1.68	total	70.0%	**	2910

(EU-28, EU-29)	PM	PM10	VOC	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton cores produced	0.350	0.350	0.650	
Percentage of Emissions	30.0%	30.0%	100.0%	
Potential Emissions (lbs/hr)	0.587	0.587	1.09	5.79
Potential Emissions (tons/yr)	2.57	2.57	4.77	25.4
Limited Emissions with throughput limit and controls (tons/yr)	0.153	0.153	0.946	

**OEPA allows a building to act as a capture device with a 70% overall control on non-heated sources.

Methodology:

PM capture is based on the best engineering judgement of hood capture ability.
EU-32 and EU-33 are controlled by BH-1 to s/v 006
Potential Throughput (Casting Grinding and Finishing) = ((20.4 tons potential melt per hour)*(applicant supplied ratio of 55.0% finished castings))
Potential Throughput (Core Manufacture) = ((20.4 tons potential melt per hour)*(applicant supplied ratio of 8.22% cores manufactured))
PM and PM 10 emission factors were supplied by the AIRS Facility Subsystyem Emission Factor Listing For Criteria Air Pollutants.
Pb, Be, and VOC emission factors were supplied by the applicant.
VOC emission factors and building capture with 70% control were supplied by the applicant from the OEPA.

Iron Process	Potential Throughput (tons/hr)		PM Control	Limited Throughput (tons/yr)
Core Sand Handling	1.68	total	93.1% (95% capture x 98%collection)	2910

	PM	PM10	Allowable PM 326 IAC 6-3-2
Emission Factors lbs/ton sand handled	0.650	0.540	
Percentage of Emissions	6.90%	6.90%	
Potential Emissions (lbs/hr)	1.089	0.905	5.79
Potential Emissions (tons/yr)	4.77	3.96	25.4
Limited Emissions with throughput limit and controls (tons/yr)	0.0653	0.0542	

Iron Process
Natural Gas Usage

Potential Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/hr)	Limited Throughput (MMCF/hr)	
28.6	0.0286	0.00566	@ 8760 hours per year

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.60	7.60	0.600	100	5.50	84.0
Potential Emission in tons/yr	0.951	0.951	0.0751	12.5	0.688	10.5
Limited Emission in tons/yr	0.188	0.188	0.0149	2.48	0.136	2.08

Methodology:

PM capture is based on the best engineering judgement of hood capture ability.
PM control is performed by the wet collectors.
Potential Throughput (Core Sand Handling) = ((20.4 tons potential melt per hour)*(applicant supplied ratio of 8.22% cores manufactured))
Core Sand Handling emission factors were supplied by the applicant.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Natural Gas emission factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3.

Iron Process		Potential Throughput (tons/hr)		PM Control		Limited Throughput (tons/yr)
Holding Furnaces		5.00	total	0.0%		35400
		two (2) @ 2.5tph				

(EU-4 and EU-5)	PM	PM10	Pb	Be	Allowable PM 326 IAC 6-3-2*	
Emission Factors lbs/ton transferred	0.056	0.056	0.00	0.00		
Percentage of Emissions	100.00%	100.00%	100.00%	100.00%		
Potential Emissions (lbs/hr)	0.280	0.280	0.00	0.00	7.58	*
Potential Emissions (tons/yr)	1.23	1.23	0.00	0.00	33.2	
Limited Emissions with throughput limit and controls (tons/yr)	0.991	0.991	0.00	0.00		

*process weight of 2.50 tons per hour

Methodology:

Potential Throughput was determined by the maximum capacity of the electric induction furnaces.
PM and PM10 emission factors were supplied by the applicant.

Grey Iron Foundry

SUMMARY OF EMISSIONS

Process Description	Potential Potential Controlled Limited and Controlled	PM (tpy)	PM10 (tpy)	SO2 (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Be (tpy)
Two (2) Electric Induction Furnaces	Potential	80.4	76.8	0.00	0.00	0.00	0.00	0.0616	0.0000894
	Potential Controlled	80.4	76.8	0.00	0.00	0.00	0.00	0.0616	0.0000894
	Limited and Controlled	15.9	15.2	0.00	0.00	0.00	0.00	0.0122	0.0000177
Scrap and Charge Handling and Heating	Potential	53.6	32.2	0.00	0.00	0.00	0.00	0.134	0.0000894
	Potential Controlled	53.6	32.2	0.00	0.00	0.00	0.00	0.134	0.0000894
	Limited and Controlled	10.6	6.37	0.00	0.00	0.00	0.00	0.0266	0.0000177
Magnesium Treatment/Inoculation	Potential	161	145	0.00	0.00	0.447	0.00	0.123	0.000179
	Potential Controlled	48.3	43.4	0.00	0.00	0.134	0.00	0.0370	0.0000536
70.0% Controlled	Limited and Controlled	9.56	8.60	0.00	0.00	0.0885	0.00	0.00732	0.0000106
Pouring Casting	Potential	375	250	1.79	0.894	12.5	0.00	0.938	0.000357
	Potential Controlled	127	84.6	1.79	0.894	12.5	0.00	0.317	0.000121
66.2% Controlled	Limited and Controlled	25.2	16.8	0.354	0.177	2.48	0.00	0.0629	0.0000240
Casting Cooling	Potential	125	125	0.00	0.00	0.00	0.00	0.313	0.0000894
	Potential Controlled	63.8	63.8	0.00	0.00	0.00	0.00	0.159	0.0000456
49.0% Controlled	Limited and Controlled	12.6	12.6	0.00	0.00	0.00	0.00	0.0316	0.00000903
Shakeout	Potential	286	200	0.00	0.00	107	0.00	0.715	0.000268
	Potential Controlled	33.7	23.6	0.00	0.00	107	0.00	0.0843	0.0000316
88.2% Controlled	Limited and Controlled	6.68	4.68	0.00	0.00	21.2	0.00	0.0167	0.00000627
Sand Grinding and Handling	Potential	290	241	0.00	0.00	0.00	0.00	0.00	0.00
	Potential Controlled	91.2	75.8	0.00	0.00	0.00	0.00	0.00	0.00
68.6% Controlled	Limited and Controlled	18.1	15.0	0.00	0.00	0.00	0.00	0.00	0.00
Tumbleblast Cleaning	Potential	762	83.5	0.00	0.00	0.00	0.00	2.21	0.000835
	Potential Controlled	15.2	1.66	0.00	0.00	0.00	0.00	0.0440	0.0000166
97.0% Controlled	Limited and Controlled	4.53	0.496	0.00	0.00	0.00	0.00	0.01314	0.00000496
Casting Grinding and Finishing	Potential	0.491	0.221	0.00	0.00	0.00	0.00	0.000393	0.00
	Potential Controlled	0.00978	0.00440	0.00	0.00	0.00	0.00	0.00000782	0.00
97.0% Controlled	Limited and Controlled	0.00292	0.00131	0.00	0.00	0.00	0.00	0.00000234	0.00
Core Manufacture	Potential	2.57	2.57	0.00	0.00	4.77	0.00	0.00	0.00
	Potential Controlled	0.789	0.789	0.00	0.00	4.77	0.00	0.00	0.00
70.0% Controlled	Limited and Controlled	0.153	0.153	0.00	0.00	0.946	0.00	0.00	0.00
Core sand Handling	Potential	4.77	3.96	0.00	0.00	0.00	0.00	0.00	0.00
	Potential Controlled	0.329	0.274	0.00	0.00	0.00	0.00	0.00	0.00
93.1% Controlled	Limited and Controlled	0.0653	0.0542	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Usage	Potential	0.951	0.951	0.0751	12.5	0.688	10.5	0.00	0.00
	Potential Controlled	0.951	0.951	0.0751	12.5	0.688	10.5	0.00	0.00
	Limited and Controlled	0.188	0.188	0.0149	2.48	0.136	2.08	0.00	0.00
Two (2) Holding Furnaces	Potential	1.23	1.23	0.00	0.00	0.00	0.00	0.00	0.00
	Potential Controlled	1.23	1.23	0.00	0.00	0.00	0.00	0.00	0.00
	Limited and Controlled	0.991	0.991	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS:	Potential	**2143**	**1163**	**1.86**	**13.4**	**126**	**10.5**	**4.50**	**0.00191**
	Potential Controlled	**516**	**405**	**1.86**	**13.4**	**125**	**10.5**	**0.838**	**0.000447**
	Limited and Controlled	**105**	**81.2**	**0.369**	**2.65**	**24.9**	**2.08**	**0.170**	**0.0000902**
		PM	PM10	SO2	NOx	VOC	CO	Pb	Be

HAP Emission Calculations
Grey Iron Foundry

Company Name: **Noblesville Castings, Inc.**
Address City IN Zip: **1600 South 8th Street, Noblesville, IN 46060**
Source Modification No.: **057-10672**
Plt ID: **057-00002**
Reviewer: **Peter E. Fountaine**
Date: **February 17, 1999**

HAPs From Iron Melting		HAP Emission Factor (lbs/ton)	Metal Throughput (tons/hr)	Control Eff (%)	Potential HAP Before Controls (tons/yr)	Potential HAP After Controls (tons/yr)
Lead		0.0455	20.4	0.00%	4.07	4.07
Nickel		0.000900	20.4	0.00%	0.0804	0.0804
Chromium		0.00450	20.4	0.00%	0.402	0.402
Manganese		0.00630	20.4	0.00%	0.563	0.563

HAPs From Iron Pouring & Cooling		Heavy Metals Only, see page 6 of 6 for VOCs and HAPS from binder				
Nickel		0.000900	20.4	49.00%	0.0804	0.0410
Chromium		0.00450	20.4	49.00%	0.402	0.205
Manganese		0.00630	20.4	49.00%	0.563	0.287

49.0% overall control on cooling operations

Summary of HAPs		Potential HAP Before Controls (tons/yr)	Potential HAP After Controls (tons/yr)
Lead		4.07	4.07
Nickel		0.161	0.121
Chromium		0.804	0.607
Manganese		1.13	0.850
	Total	**6.16**	**5.64**

HAP Emission Calculations
Pouring-Cooling-Shakeout Binder Systems
for Grey Iron Foundries

Company Name: Noblesville Castings Inc.
Plant Location: 1600 South 8th Street, Noblesville, IN 46060
Source Modification No.: 057-10672
County: Hamilton
Permit Reviewer: Peter E. Fountaine
Date: February 17, 1999

Annual Usage of Index Material (lbs/yr)	Binder System
22800	Phen. Ureth.

	Binder System Type Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index											***		
Pollutant	Phenolic Nobake (Resin)	Phenolic Urethane (Resin)	Phenilic Hotbox (Resin)	Green Sand (Seacoal)	Core Oil (Core Oil)	Shell (Resin)	Low Nitrogen Furan (Resin)	Med Nitrogen Furan TSA Catalyst (Resin)	Furan Hotbox (Resin)	Alkyd Isocyanate (Resin & Isocyanate)	Sodium Silicate & Ester (Sugar & Ester)	Pollutant Emissions Actual (lbs/yr)	Pollutant Emissions Potential (lbs/yr)	Pollutant Emissions Potential (tons/yr)
Ammonia	0.000039	0.000083	0.010931	0.000065	0.000038	0.003860	0.000040	0.000202	0.019579	0.000037	0.000038	1.89	3.68	0.00184
Hydrogen Sulfide	0.001462	0.000057	0.000009	0.000832	0.000057	0.000094	0.000405	0.000486	0.000060	0.000007	0.000197	1.30	2.53	0.00126
Nitrogen Oxides	0.000029	0.000044	0.000638	0.000562	0.000081	0.000994	0.000012	0.000312	0.000411	0.000355	0.000028	1.00	1.95	0.000976
Sulfur Dioxide	0.015107	0.000061	0.000036	0.000253	0.000115	0.003509	0.000607	0.004858	0.000088	0.000040	0.000244	1.39	2.71	0.00135
Total Hydrocarbons	0.012159	0.023377	0.005165	0.011941	0.028737	0.022421	0.007814	0.017178	0.006259	0.035567	0.022782	533	1038	0.519
Acrolein	0.000005	0.000031	0.000009	0.000002	0.000077	0.000047	0.000028	0.000016	0.000013	0.000088	0.000028	0.707	1.38	0.000688
Benzene	0.011209	0.005351	0.001002	0.000611	0.002344	0.006667	0.000648	0.004534	0.000537	0.005336	0.001410	122	237	0.119
Formaldehyde	0.000010	0.000022	0.000006	0.000004	0.000096	0.000035	0.000267	0.000065	0.000009	0.000106	0.000169	0.502	0.976	0.000488
Hydrogen Cyanide	0.000029	0.001053	0.001184	0.000118	0.000086	0.010526	0.000368	0.000607	0.003474	0.000175	0.000179	24.0	46.7	0.0234
M-Xylene	0.000097	0.000439	0.000121	0.000021	0.000239	0.000585	0.002227	0.000243	0.000032	0.002522	0.000094	10.0	19.5	0.00974
Naphthalene	0.000049	0.000022	0.000030	0.000021	0.000048	0.000058	0.000040	0.000040	0.000032	0.000037	0.000005	0.502	0.976	0.000488
O-Xylene	0.000049	0.000132	0.000030	0.000021	0.000287	0.000117	0.000729	0.000040	0.000032	0.003838	0.000094	3.01	5.86	0.00293
Phenol	0.000975	0.003904	0.000203	0.000131	0.000057	0.002456	0.000024	0.000101	0.000016	0.000110	0.000273	89.0	173	0.0866
Toluene	0.000634	0.000833	0.000182	0.000063	0.000478	0.002807	0.000210	0.008826	0.000032	0.001535	0.000282	19.0	37.0	0.0185
Total Aromatic Amines	0.000049	0.000351	0.001275	0.000021	0.000096	0.002339	0.000081	0.000364	0.003032	0.000037	0.000094	8.00	15.6	0.00779
Total C2 to C5 Aldehydes	0.003070	0.000219	0.000273	0.000063	0.000766	0.000585	0.000243	0.017004	0.000158	0.002156	0.001316	4.99	9.72	0.00486
Total HAPs	0.016174	0.012355	0.004318	0.001076	0.004574	0.026222	0.004777	0.031842	0.007364	0.015939	0.003943	282	548	0.274

Total State Potential Emissions

SUBTOTALS:	**(lbs/yr):**	**1102**	**2145**
	(tons/yr):	**0.551**	**1.07**
	(lbs/hr):	**252**	**490**
	(g/sec):	**31.7**	**61.8**

*** Note: Substitute appropriate column letter in formula

METHODOLOGY

HAPS emission rate (tons/yr) = Annual Usage (lbs/yr) * Emission Factor (lbs Chemical/lbs Index) * 1 ton/2000 lbs

HAP Emission Calculations
Pouring-Cooling-Shakeout Binder Systems
for Grey Iron Foundries

Company Name: Noblesville Castings Inc.
Plant Location: 1600 South 8th Street, Noblesville, IN 46060
Source Modification No.: 057-10672
County: Hamilton
Permit Reviewer: Peter E. Fountaine
Date: February 17, 1999

Annual Usage of Index Material (lbs/yr)	Binder System
63400	Shell

	Binder System Type Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index											***	***	
Pollutant	Phenolic Nobake (Resin)	Phenolic Urethane (Resin)	Phenilic Hotbox (Resin)	Green Sand (Seacoal)	Core Oil (Core Oil)	Shell (Resin)	Low Nitrogen Furan (Resin)	Med Nitrogen Furan TSA Catalyst (Resin)	Furan Hotbox (Resin)	Alkyd Isocyanate (Resin & Isocyanate)	Sodium Silicate & Ester (Sugar & Ester)	Pollutant Emissions Actual (lbs/yr)	Pollutant Emissions Potential (lbs/yr)	Pollutant Emissions Potential (tons/yr)
Ammonia	0.000039	0.000083	0.010931	0.000065	0.000038	0.003860	0.000040	0.000202	0.019579	0.000037	0.000038	245	476	0.238
Hydrogen Sulfide	0.001462	0.000057	0.000009	0.000832	0.000057	0.000094	0.000405	0.000486	0.000060	0.000007	0.000197	5.96	11.6	0.00580
Nitrogen Oxides	0.000029	0.000044	0.000638	0.000562	0.000081	0.000994	0.000012	0.000312	0.000411	0.000355	0.000028	63.0	123	0.0613
Sulfur Dioxide	0.015107	0.000061	0.000036	0.000253	0.000115	0.003509	0.000607	0.004858	0.000088	0.000040	0.000244	222	433	0.217
Total Hydrocarbons	0.012159	0.023377	0.005165	0.011941	0.028737	0.022421	0.007814	0.017178	0.006259	0.035567	0.022782	1421	2767	1.384
Acrolein	0.000005	0.000031	0.000009	0.000002	0.000077	0.000047	0.000028	0.000016	0.000013	0.000088	0.000028	2.98	5.80	0.00290
Benzene	0.011209	0.005351	0.001002	0.000611	0.002344	0.006667	0.000648	0.004534	0.000537	0.005336	0.001410	423	823	0.411
Formaldehyde	0.000010	0.000022	0.000006	0.000004	0.000096	0.000035	0.000267	0.000065	0.000009	0.000106	0.000169	2.22	4.32	0.00216
Hydrogen Cyanide	0.000029	0.001053	0.001184	0.000118	0.000086	0.010526	0.000368	0.000607	0.003474	0.000175	0.000179	667	1299	0.650
M-Xylene	0.000097	0.000439	0.000121	0.000021	0.000239	0.000585	0.002227	0.000243	0.000032	0.002522	0.000094	37.1	72.2	0.0361
Naphthalene	0.000049	0.000022	0.000030	0.000021	0.000048	0.000058	0.000040	0.000040	0.000032	0.000037	0.000005	3.68	7.16	0.00358
O-Xylene	0.000049	0.000132	0.000030	0.000021	0.000287	0.000117	0.000729	0.000040	0.000032	0.003838	0.000094	7.42	14.4	0.00722
Phenol	0.000975	0.003904	0.000203	0.000131	0.000057	0.002456	0.000024	0.000101	0.000016	0.000110	0.000273	156	303	0.152
Toluene	0.000634	0.000833	0.000182	0.000063	0.000478	0.002807	0.000210	0.008826	0.000032	0.001535	0.000282	178	346	0.173
Total Aromatic Amines	0.000049	0.000351	0.001275	0.000021	0.000096	0.002339	0.000081	0.000364	0.003032	0.000037	0.000094	148	289	0.144
Total C2 to C5 Aldehydes	0.003070	0.000219	0.000273	0.000063	0.000766	0.000585	0.000243	0.017004	0.000158	0.002156	0.001316	37.1	72.2	0.0361
Total HAPs	0.016174	0.012355	0.004318	0.001076	0.004574	0.026222	0.004777	0.031842	0.007364	0.015939	0.003943	1662	3236	1.62

Total State Potential Emissions

SUBTOTALS:	**(lbs/yr):**	**5283**	**10283**
	(tons/yr):	**2.64**	**5.14**
	(lbs/hr):	**1207**	**2350**
	(g/sec):	**152**	**296**

*** Note: Substitute appropriate column letter in formula

METHODOLOGY

HAPS emission rate (tons/yr) = Annual Usage (lbs/yr) * Emission Factor (lbs Chemical/lbs Index) * 1 ton/2000 lbs

HAP Emission Calculations
Pouring-Cooling-Shakeout Binder Systems
for Grey Iron Foundries

Company Name: Noblesville Castings Inc.
Plant Location: 1600 South 8th Street, Noblesville, IN 46060
Source Modification No.: 057-10672
County: Hamilton
Permit Reviewer: Peter E. Fountaine
Date: February 17, 1999

Annual Usage of Index Material (lbs/yr)	Binder System
1843200	Green Sand

	Binder System Type Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index											***		
Pollutant	Phenolic Nobake (Resin)	Phenolic Urethane (Resin)	Phenilic Hotbox (Resin)	Green Sand (Seacoal)	Core Oil (Core Oil)	Shell (Resin)	Low Nitrogen Furan (Resin)	Med Nitrogen Furan TSA Catalyst (Resin)	Furan Hotbox (Resin)	Alkyd Isocyanate (Resin & Isocyanate)	Sodium Silicate & Ester (Sugar & Ester)	Pollutant Emissions Actual (lbs/yr)	Pollutant Emissions Potential (lbs/yr)	Pollutant Emissions Potential (tons/yr)
Ammonia	0.000039	0.000083	0.010931	0.000065	0.000038	0.003860	0.000040	0.000202	0.019579	0.000037	0.000038	120	233	0.117
Hydrogen Sulfide	0.001462	0.000057	0.000009	0.000832	0.000057	0.000094	0.000405	0.000486	0.000060	0.000007	0.000197	1534	2985	1.49
Nitrogen Oxides	0.000029	0.000044	0.000638	0.000562	0.000081	0.000994	0.000012	0.000312	0.000411	0.000355	0.000028	1036	2017	1.01
Sulfur Dioxide	0.015107	0.000061	0.000036	0.000253	0.000115	0.003509	0.000607	0.004858	0.000088	0.000040	0.000244	466	908	0.454
Total Hydrocarbons	0.012159	0.023377	0.005165	0.011941	0.028737	0.022421	0.007814	0.017178	0.006259	0.035567	0.022782	22010	42845	21.4
Acrolein	0.000005	0.000031	0.000009	0.000002	0.000077	0.000047	0.000028	0.000016	0.000013	0.000088	0.000028	3.69	7.18	0.00359
Benzene	0.011209	0.005351	0.001002	0.000611	0.002344	0.006667	0.000648	0.004534	0.000537	0.005336	0.001410	1126	2192	1.10
Formaldehyde	0.000010	0.000022	0.000006	0.000004	0.000096	0.000035	0.000267	0.000065	0.000009	0.000106	0.000169	7.37	14.4	0.00718
Hydrogen Cyanide	0.000029	0.001053	0.001184	0.000118	0.000086	0.010526	0.000368	0.000607	0.003474	0.000175	0.000179	217	423	0.212
M-Xylene	0.000097	0.000439	0.000121	0.000021	0.000239	0.000585	0.002227	0.000243	0.000032	0.002522	0.000094	38.7	75.4	0.0377
Naphthalene	0.000049	0.000022	0.000030	0.000021	0.000048	0.000058	0.000040	0.000040	0.000032	0.000037	0.000005	38.7	75.4	0.0377
O-Xylene	0.000049	0.000132	0.000030	0.000021	0.000287	0.000117	0.000729	0.000040	0.000032	0.003838	0.000094	38.7	75.4	0.0377
Phenol	0.000975	0.003904	0.000203	0.000131	0.000057	0.002456	0.000024	0.000101	0.000016	0.000110	0.000273	241	470	0.235
Toluene	0.000634	0.000833	0.000182	0.000063	0.000478	0.002807	0.000210	0.008826	0.000032	0.001535	0.000282	116	226	0.113
Total Aromatic Amines	0.000049	0.000351	0.001275	0.000021	0.000096	0.002339	0.000081	0.000364	0.003032	0.000037	0.000094	38.7	75.4	0.0377
Total C2 to C5 Aldehydes	0.003070	0.000219	0.000273	0.000063	0.000766	0.000585	0.000243	0.017004	0.000158	0.002156	0.001316	116	226	0.113
Total HAPs	0.016174	0.012355	0.004318	0.001076	0.004574	0.026222	0.004777	0.031842	0.007364	0.015939	0.003943	1983	3861	1.93

Total State Potential Emissions

		Actual	Potential
SUBTOTALS:	**(lbs/yr):**	**29132**	**56710**
	(tons/yr):	**14.6**	**28.4**
	(lbs/hr):	**6657**	**12959**
	(g/sec):	**839**	**1633**
		Actual	**Potential**
TOTALS:	**(lbs/yr):**	**35516**	**69139**
	(tons/yr):	**17.8**	**34.6**
	(lbs/hr):	**8116**	**15799**
	(g/sec):	**1023**	**1991**

*** Note: Substitute appropriate column letter in formula

METHODOLOGY

HAPS emission rate (tons/yr) = Annual Usage (lbs/yr) * Emission Factor (lbs Chemical/lbs Index) * 1 ton/2000 lbs

HAP Emission Calculations
Pouring-Cooling-Shakeout Binder Systems
for Grey Iron Foundries

Company Name: Noblesville Castings Inc.
Plant Location: 1600 South 8th Street, Noblesville, IN 46060
Source Modification No.: 057-10672
County: Hamilton
Permit Reviewer: Peter E. Fountaine
Date: February 17, 1999

Individual Potential Binder HAP Totals

Pollutant	Phenolic Urethane (tons/yr)	Shell (tons/yr)	Green Sand (tons/yr)	Total (tons/yr)	Total HAPs (tons/yr)	
Ammonia	0.00184	0.238	0.117	0.357	not a HAP	
Hydrogen Sulfide	0.00126	0.00580	1.49	1.50	not a HAP	
Nitrogen Oxides	0.000976	0.0613	1.01	1.07	not a HAP	
Sulfur Dioxide	0.00135	0.217	0.454	0.672	not a HAP	
Total Hydrocarbons	0.519	1.38	21.4	23.3	not a HAP	
Acrolein	0.000688	0.00290	0.00359	0.00718	0.00718	
Benzene	0.119	0.411	1.10	1.63	1.63	
Formaldehyde	0.000488	0.00216	0.00718	0.00982	0.00982	
Hydrogen Cyanide	0.0234	0.650	0.212	0.885	0.885	
M-Xylene	0.0097	0.0361	0.0377	0.0835	0.0835	
Naphthalene	0.000488	0.00358	0.0377	0.0417	0.0417	
O-Xylene	0.00293	0.00722	0.0377	0.0478	0.0478	
Phenol	0.087	0.152	0.235	0.473	0.473	
Toluene	0.018	0.173	0.113	0.305	0.305	
Total Aromatic Amines	0.008	0.144	0.0377	0.190	not a HAP	
Total C2 to C5 Aldehydes	0.005	0.0361	0.113	0.154	not a HAP	
Total HAPs	0.274	1.62	1.93	3.82	n\a	
				34.6	3.48	combined total HAPs (tons/yr)